Safety Programs

Don-Nan
Pump & Supply

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ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

It is the policy of Don-Nan Pump & Supply to establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This policy shall apply to all construction sites not equipped with ground fault circuit interrupters in accordance with OSHA standard 1926.400 (h)

Supervisors are designated to implement the assured equipment grounding conductor program: 1926.32 (f) defines competent person as one who is capable of identifying existing and predictable hazards i the surrounding area or working conditions which are unsanitary, hazardous or dangerous to employees, and who is authorized to take prompt corrective measures to eliminate them.

Supervisors will be responsible and accountable for the following:

Each cord set, attachment cap, plug and receptacle of cord set and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins, or insulation damage, and for indication of possible internal damage. Equipment found damaged or defective may not be used until repaired.

Supervisors are responsible for tests on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord and plug connected equipment repaired to be grounded. Tests shall be documented on the log for assured equipment grounding conductor program and shall be on the job site for inspection by OSHA officials and any affected employee. Equipment that does not meet prescribed test shall not be put into service. The following tests shall be performed:

A. All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

B. Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding shall be connected to its terminal.

In accordance with OSHA Construction Safety and health Standards 1926.21 Safety Training and Education, supervisors shall attend such training sessions as the company may deem necessary.

A copy of this policy shall be at the job site for inspection and copy by OSHA officials and any affected employee. Management retains the authority to designate that certain jobs comply with regulation 1926.400 (h) by use of ground fault circuit interrupters in lieu of the program established above. A copy of the completed forms will be kept on each applicable job site for inspection purposes.

WRITTEN DESCRIPTION
ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

I. Scope

This procedure describes the requirements to assure the installation and maintenance of equipment grounding conductors for temporary wiring on construction sites in accordance with paragraph (c) (30 of part 1910.309 of the Occupational Safety and Health Standard and paragraph (h) (3) of part 1926.400 of the Safety and Health regulations for construction.

II. Policy

Ground fault circuit interrupters (GFCI's) are not required for 120 volt, single phase, 15- and 20-ampere receptacles outlets where all of the requirements of this procedure are implemented at the construction site. Employees shall not use any equipment which has not met the requirements of this procedure.

III. Job site Information

A. Name or description of construction site: _____

B. Employer complying with this procedure is: _____

C. Person designated to implement the procedure is: _____

IV. Requirements

Equipment grounding conductors shall be installed and maintained in accordance with this procedure.

A Installation - Equipment grounding conductors shall be installed as follows:

1. All 120 volt, single phase, 15- and 20- ampere receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supply the receptacle in accordance with the applicable requirements of the National Electrical Code.

2. All 120 volt cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contacts of the connector(s) on each end of the cord.

3. The exposed concurrent-carrying metal parts of the 120 volt cord and plug-connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of the National Electrical Code.

B. Visual Inspection

Employees shall be instructed to visually inspect receptacle, flexible cord sets (extension cords), except those that are fixed and not exposed to damage, and equipment connected by cord and plug before each day's use for external defects such as deformed or missing pins or insulation damage and for indication of possible internal damage. Where there is evidence of damage, the damaged item shall be taken out of service and tagged until tested and any required repairs have been made.

C. All 120 volt, single phase, 15 and 20- ampere receptacles which are not a part of the permanent wiring of the building or structure, 1220 volt flexible cord sets, and 120 volt cord and plug connected equipment required to be grounded shall be tested as follows:

1. All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

2. Each receptacle and attachment ca or plug shall be tested or correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

D. Testing Schedule

All required tests shall be performed:

1. Before first use
2. Before equipment is returned to service following any repairs.
3. Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over)
4. At intervals not to exceed 3 months, except that cord sets and receptacle which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.

E. Test Records

Test verification shall be by means of numeric or color coded marking tape ion the receptacle, cord set or equipment to identify that it has passed the test and to indicate the date (month or quarter) in accordance with section 5.0 Coding Scheme.

ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

COMPANY NAME: _____

SHOP ADDRESS: _____

JOB NAME OR NUMBER _____

ID OF EQUIP TESTED	DATE TESTED	ACTION, IF ANY	REASON- A-B-C-D	TESTED BY (SIGNATURE)

*REASON FOR TEST:

A. BEFORE FIRST USE.

B. BEFORE EQUIPMENT IS RETURNED TO SERVICE FOLLOWING ANY REPAIRS

C. BEFORE EQUIPMENT IS USED AFTER ANY INCIDENT WHICH CAN REASONABLY BE SUSPECTED TO HAVE CAUSED DAMAGE.

D. AT INTERVALS NOT TO EXCEED 3 MONTHS, EXCEPT THAT CORD SETS AND RECEPTACLES WHICH ARE FIXED AND NOT EXPOSED TO DAMAGE SHALL BE TESTED AT INTERVALS NOT EXCEEDING 6 MONTHS.

COMPANY AUTHORIZED SIGNATURE: _____

EFFECTS OF AMOUNT OF AC CURRENT AT 60 CYCLES PER SECOND

More than 3 mA	**-**	**Painful shock which can cause indirect accidents.**
More than 10 mA	**-**	**Muscle contraction, "No-Let-Go" danger.**
More than 30 mA	**-**	**Lung paralysis, usually temporary.**
More than 50 mA	**-**	**Possible ventricular fibrillation (Heart dysfunction, usually fatal)**
100 mA to 4 A	**-**	**Certain ventricular fibrillation, fatal**
Over 4 A	**-**	**Heart paralysis, but may be temporary; severe burns. Usually caused by voltages above 600 Volts.**

"mA" - Milli-amp **A = Ampere**

1 mA = 1/1000 Ampere = .001 Ampere

Don-Nan Pump & Supply
Benzene Awareness

Purpose

The purpose of this policy is to prevent potential accidents from exposure to benzene by educating Don-Nan Pump & Supply employees as to the hazards presented by benzene in the performance of their duties.

Scope

In this section we will help Don-Nan Pump & Supply employees to understand:

1. What is Benzene
2. Hazardous Characteristics
3. Other Common Names
4. Potential Exposure Points
5. Effects of Exposure
6. Personal Protective Equipment used to minimize injury
7. Safety Precautions
8. Contingency Plans

What is Benzene?

Benzene is a toxic, flammable, and colorless to light yellow liquid which has an aromatic odor. It is lighter than water and insoluble (not able to dissolve in water). Benzene has been found to be in association with various fossil fuels and some of their byproducts.

Other Common Names

Other common names for benzene include:

- Benzol
- Carbon Oil
- Coal Naphtha
- Cyclohexadiene
- Phenyl Hydride

Points of Exposure

Don-Nan Pump & Supply employees may encounter benzene during the performance of many routine duties such as:

- Tank Gauging
- Field Maintenance
- At Refining Sites
- Working Near Production Piping
- Well Heads
- Flow Lines
- Fueling Stations

Effects of Exposure

Benzene exposure may present many different serious physical and health hazards, depending upon the rout and the duration of exposure. Primarily Don-Nan Pump & Supply employees can be exposed through inhalation, ingestion or absorption, allowing benzene to influence many different target organs including the:

- Eyes
- Skin
- Respiratory System
- Central Nervous System
- Blood
- Bone Marrow

Acute (short term) effects may include:

- Dizziness
- Vomiting
- Coughing
- Eye, Skin, and Respiratory Irritation
- Weakness
- Exhaustion
- Euphoria
- Shortness of Breath
- Irritability

Chronic (long term) effects may include

- Staggered Gait
- Anorexia
- Dermatitis
- Depression
- Eye, Skin, and Respiratory Track Irritation
- Leukemia
- Anemia
- Depression of Immune System

Permissible Exposure Limits

The Occupational Safety and Health Administration (OSHA) has set the Permissible Exposure Level (PEL) at 1 part per million (PPM) based off the Time Weighted Average (TWA) of 8 hours in a 5 day work week. OSHA also placed the Short Term Exposure Level (STEL) at 5 ppm. This is a level based off a TWA of 15 minutes.

Personal Protective Equipment (PPE)

When working in potential Benzene areas where exposure amount will be above the PEL, Don-Nan Pump & Supply employees will evaluate the situation and use PPE according to the level of hazard presented. This equipment may include:

- Respirators
- Chemical Resistant Gloves
- Chemical Resistant Clothing with Long Sleeves
- Aprons
- Safety Goggles
- Face Shields
- Chemical resistant boots
- Safety Showers
- Fire Retardant Clothing

Safety Precautions

As mentioned before Benzene is also extremely flammable with a flash point at 12 degrees Fahrenheit and lower explosive limit (LEL) of 1.2%. For this reason it is extremely important that Don-Nan Pump & Supply identify all potential sources of ignition including smoking, and take all necessary precautions including permits, proper fire extinguishers, smoking only in designated areas, and proper training to minimize the potential of a fire.

Smoking is prohibited in potential benzene areas

Contingency Plans/ Emergency Plans

Emergencies will vary from site to site and location to location therefore Don-Nan Pump & Supply employees must be informed of potential hazards in their area of operation prior to beginning work activities, including owner contingency plans on location, potential benzene areas, and host facility additional plant safety rules.

Don-Nan Pump & Supply
Bloodborne Pathogen Program

Purpose:

An infection control plan must be prepared for all persons who handle, store, use, process, or disposes of infectious medical wastes. This infection control plan complies with OSHA requirement, 29 CFR 1910.1030, Blood Borne Pathogens. The plan includes requirements for personal protective equipment, housekeeping, training, and a procedure for reporting exposures.

Responsibilities:

- The Company Nurse or Physician will conduct the Bloodborne Pathogen Program and maintain records of training and inspections for this program.
- Management will ensure proper conduct of the program though inspections, record keeping and periodic audit.

Definitions:

Biological Hazard - The term biological hazard or biohazard is taken to mean any viable infectious agent that presents a risk, or a potential risk, to the well-being of humans.

Medical Wastes/Infectious Wastes - All waste emanating from human or animal tissues, blood or blood products or fluids. This includes used first aid bandages, syringes, needles, sharps, material used in spill cleanup and contaminated PPE or clothing.

Universal Precautions - Refers to a system of infectious disease control that assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions (OSHA Instruction CPL 2-2.44A)

Hazards:

Unprotected exposure to body fluids presents the possible risk of infection from a number of bloodborne pathogens notably Hepatitis and HIV.

Hazard Control:

Engineering Controls - prevention of exposure to bloodborne pathogens engineering controls include proper storage facilities and containers, syringes designed to prevent accidental needle sticks, autoclaves and disinfectant equipment.

Administrative Controls - prevention of exposure to bloodborne pathogen administrative controls include universal precautions, assignment of PPE, employee training, use of spill kits specifically designed for blood and body fluids, restricted access to waste collection points and waste disposal procedures.

Reporting and Record Keeping:

Any reports required by OSHA will be maintained by the Occupational Health Department. All reports (Training Certificates, Notice of HBV Vaccinations, exposure reports) will be maintained for 30 years. Occupationally contracted HBV or HIV will be

recorded on the OSHA 300 Log of Occupational Injuries and Illnesses as an illness. Exposures to blood-borne pathogens from contact with sharps will be recorded on the OSHA 300 Log of Occupational Injuries and Illnesses if treatment such as gamma globulin, hepatitis B immune globulin or hepatitis B vaccine is prescribed by a Physician.

Training:

All personnel assigned duties as EMT, Paramedics, First Aid Station Staff, HAZMAT responders, Custodial Employees (those that clean rest rooms, etc.) will receive initial and annual training by a qualified medical practitioner on the Bloodborne Pathogen Program. Additionally, personnel trained in First Aid shall be offered this annual training.

All new and current affected Employees will be trained initially and annually thereafter. The content of the training program will include:

1. Company Policy
2. Types and transmission of Blood-Borne Pathogens
3. General Safety Rules
4. Universal Precautions
5. Use of Personal Protective Equipment
6. Medical Waste Disposal Procedures
7. Post Exposure Treatment and Procedures
8. HBV Vaccinations

Documentation of training will be by Control of Blood-Borne Pathogens Training Certificate

All Employees not affected by this Program will receive an overview of the program requirements during scheduled department Safety Meetings with documentation by Safety Meeting Minutes Form.

Hepatitis-B Virus (HBV) Vaccinations:

Occupational Health Professionals and those required to provide first aid or emergency response duties or medical care on a routine basis will be offered Hepatitis-B Virus (HBV) Vaccinations at Company expense. Employees that transfer to a job or their job is reclassified to include exposure to blood-borne pathogens will be offered HBV Vaccinations within 10 working days of the transfer or reclassification.

The choice for HBV vaccination is not mandatory. If an affected Employee chooses not to have the vaccination at the initial offering, they will have the opportunity to be vaccinated when they are ready. The Company will document the offer, acceptance or declination, and vaccination dates with the Notice of HBV Vaccinations Form.

Post Exposure Treatment and Notification Procedures:

Should an affected Employee or an Employee acting as a "Good Samaritan" be occupationally exposed to HIV/HAV/HBV the affected Employee will report the exposure to the Company Nurse. The Company will provide for the Employee to be tested for HIV/HAV/HBV at Company expense. Following the initial blood test at time of exposure, seronegative Employees will be retested at 6 weeks, 12 weeks and 6 months

to determine if transmission has occurred. During this period, the Employee will follow the recommendations provided by the Physician or the U. S. Public Health Service.

An "occupational exposure" is defined as blood or body fluid contact from an injured or ill Employee to the affected Employee or injury by a contaminated sharp object.

The source individual's blood is tested as soon as possible and after consent is obtained to determine HBV and HIV infectivity. (Hepatitis B surface Antigen, Hepatitis C Antibody and HIV Screen)

The exposed employee's blood shall be collected as soon as feasible and tested for HBV (Hepatitis B Antibody, Hepatitis C Antibody) and HIV serological status after consent is obtained (Employee Consent for HIV Antibody Testing).

During all phases of Post Exposure, the confidentiality of the affected Employee and exposure source will be maintained on a "need to know basis". The Blood-Borne Pathogens Exposure and Treatment form is used to document the exposure and offer of medical assistance to the affected Employee and use the Medical Consent for Blood-Borne Pathogens Testing form for the exposure source. The results of any HIV/HAV/HBV tests conducted will be provided to the exposed and source Employees within 5 business days of receipt.

General Procedures:

The following procedures must be followed by personnel when in medical rooms or laboratories.

All supervisors must ensure that their staff is trained in proper work practices, the concept of universal precautions, personal protective equipment, and in proper cleanup and disposal techniques.

Resuscitation equipment, pocket masks, resuscitation bags, or other ventilation equipment must be provided to eliminate the need for direct mouth to mouth contact in groups where resuscitation is a part of their responsibilities.

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a potential for exposure to any health hazard. Food and drink must not be stored in refrigerators, freezers, or cabinets where blood or other potentially infectious material is stored or in other areas of possible contamination.

According to the level of risk, wearing laboratory or protective clothing may be required for persons entering infectious disease laboratories. Likewise, showers with a germicidal soap may be required before exit.

Gowns, aprons, or lab coats must be worn whenever there is a possibility that body fluids could splash on skin or clothing.

Gloves must be made of appropriate disposable material, usually intact latex or vinyl. They must be used in the following circumstances:

- When the employee has cuts, abraded skin, chapped hands, dermatitis, or similar conditions.
- When examining abraded or non-intact skin of a patient with active bleeding.

- While handling blood or blood products or other body secretions during routine laboratory procedures.

Employees must wash their hands immediately, or as soon as possible, after removal of gloves or other personal protective equipment and after hand contact with blood or other potentially infectious materials.

All personal protective equipment must be removed immediately upon leaving the work area, and if this equipment is overtly contaminated, it must be placed in an appropriate area or container for storage, washing, decontamination, or disposal.

Contaminated clothing must not be worn in clean areas or outside the building.

All procedures involving blood or other potentially infectious agents must be performed in a manner that will minimize splashing, spraying, and aerosolization.

Medical Wastes:

Medical/infectious waste must be segregated from other waste at the point of origin.

Medical/infectious waste, except for sharps (i.e., razor blades, broken glass, needles, etc.) capable of puncturing or cutting, must be contained in double disposable red bags conspicuously labeled with the words "INFECTIOUS WASTE" and "BIOHAZARD."

Used needles or other sharps (razor blades, broken glass, scalpels, etc.) must not be sheared, bent, broken, recapped, or resheathed.

Infectious sharps must be contained for disposal in leak-proof, rigid puncture-resistant containers. Infectious waste contained as described above must be placed in reusable or disposable leak-proof bins or barrels that are conspicuously labeled with the words "INFECTIOUS WASTE" and "BIOHAZARD." These waste barrels are picked up regularly by an outside company licensed to handle infectious wastes.

All infectious agents, equipment, or apparatus must be disinfected in an autoclave or otherwise disinfected before being washed or disposed of. Each individual working with infectious bio-hazardous agents is responsible for dis-infection and disposal of these agents.

Biological wastes that do not contain radioactive or hazardous substances may be disinfected by steam sterilization (autoclave) then disposed of in the regular trash.

Liquid bio-hazardous waste may be disposed of in the sewage system following chemical decontamination.

Reusable glassware must be decontaminated in sodium hypo chlorite (household bleach) solution (1:9) prior to rinsing and acid washing. The glassware must then be sterilized in an autoclave.

To minimize the hazard to firefighters or emergency response personnel, at the close of each work day and before the building is closed, all infectious or toxic material must be placed in a refrigerator, placed in an incubator, or autoclaved or otherwise disinfected.

Infectious agents must not be placed in an autoclave and left overnight in anticipation of autoclaving the next day.

Floors, laboratory benches, and other surfaces in buildings where infectious agents are handled must be disinfected with a suitable germicide, such as 1:9 sodium hypo chlorite solution (household bleach) as often as necessary as determined by the supervisor.

The surroundings must be disinfected after completion of operations involving planting, pipetting, centrifuging, and similar procedures with infectious agents.

Infectious agents must not be dumped into the building drainage system without prior disinfection.

Cuts:

If an employee has a needle stick, cut, or mucous membrane exposure to another persons body fluids he/she must report the incident immediately to the Company Nurse.

Blood Exposure:

All employees exposed to human blood and blood products must report to the Company Nurse for information and possible inclusion in the Hepatitis B Immunization Program.

Infection Control Plan:

The purpose of the Infection Control Plan is to protect the health and safety of the persons directly involved in handling the materials, Company personnel and the general public by ensuring the safe handling, storage, use, processing, and disposal of infectious medical waste. This plan complies with OSHA requirement proposed for 29 CFR 1910.1030, Bloodborne Pathogens.

Universal precautions - Refers to a system of infectious disease control which assumes that every direct contact with body fluids is infectious and requires every employee exposed to be protected as though such body fluids were infected with blood-borne pathogens. All infectious/medical material must be handled according to Universal Precautions (OSHA Instruction CPL 2-2.44A).

The following universal precautions must be taken.

1. Gloves must be made of appropriate disposable material, usually intact latex or vinyl. They must be used:

    A.) when the employee has cuts, abraded skin, chapped hands, dermatitis, or the like.

    B.) when examining abraded or non-intact skin of a patient with active bleeding.

    C.) while handling blood or blood products or other body secretions during routine procedures.

2. Gowns, aprons, or lab coats must be worn when splashes of body fluid on skin or clothing are possible.

3. Mask and eye protection are required when contact of mucosal membranes (eyes, mouth or nose) with body fluids is likely to occur (e.g. splashes or aerosolization).

4. Resuscitation equipment, pocket masks, resuscitation bags, or other ventilation equipment must be provided to eliminate the need for direct mouth to mouth contact.

Waste Disposal Plan:

1. Medical/Infectious waste must be segregated from other waste at the point of origin.

2. Medical/Infectious waste, except for sharps (e.g. razor blades, broken glass, needles, etc.) capable of puncturing or cutting must be contained in double disposable red bags conspicuously labeled with the words, "INFECTIOUS WASTE -- BIOHAZARD."

3. Infectious sharps must be contained for disposal in leak-proof, rigid puncture resistant containers.

4. Infectious waste thus contained as described in procedures 2 and 3 above must be placed in reusable or disposable leak-proof bins or barrels which must be conspicuously labeled with the words, "INFECTIOUS WASTE -- BIOHAZARD." These waste barrels are be picked up regularly by an outside company licensed to handle infectious wastes.

5. Spills/Disinfectants: a solution of sodium hypo chlorite (household bleach) diluted 1:9 with water must be used to disinfect, following initial cleanup of a spill with a chemical germicide approved as a hospital disinfectant. Spills must be cleaned up immediately.

7. After removing gloves, and/or after contact with body fluids, hands and other skin surfaces must be washed thoroughly and immediately with soap or other disinfectant in hot water.

8. Other biological wastes that do not contain radioactive or hazardous substances may be disinfected by steam sterilization (autoclave) and then disposed of in the regular trash.

9. Liquid biohazard waste may be disposed of in the sewage system following chemical decontamination.

10. Reusable glassware must be decontaminated in sodium hyper chlorite (household bleach) solution (1:9) prior to rinsing and acid washing. Then the glassware must be sterilized in an autoclave.

Personal Protective Equipment for Worker Protection

Against HIV and HBV Transmission

TASK	**GLOVES**	**APRON**	**MASK**	**EYEWEAR**
Control of Bleeding w/ spurting blood	X	X	X	X
Bleeding control with minimal bleeding	X			
Emergency Child Birth	X	X	X	X
Blood Drawing	X			
Handling & Cleaning Instruments	X			
Cleaning Bio Spills	X			
Taking Temperature				

Giving Injection	X			
Measuring Blood Pressure				

The examples provided in this table are based on application of universal precautions. Universal precautions are intended to supplement rather than replace recommendation for routine infection control, such as hand washing and using gloves to prevent gross microbial contamination of hands (e.g., contact with urine or feces).

Blood-Borne Pathogen Control

Universal Precautions and General Safety Rules

For Posting

Exposure Determination: Don-Nan Pump & Supply and its Divisions and Subsidiaries will not perform invasive medical treatment or provide intravenous medication. Therefore, the exposure to Blood-Borne Pathogens, as defined in item # 3 below, is determined to be from routine and emergency first aid treatment of common workplace injuries. The following Universal Precautions and General Safety Rules have been established to prevent the spread of viral and bacterial organisms (namely HIV/HAV/HBV). In all cases, the Universal Precautions and General Safety Rules should be followed.

1. Before and immediately after providing patient care, wash exposed areas (hands, arms, etc.) with antibacterial soap.

2. Don and use the required personal protective equipment for the medical care given as outlined in the Personal Protective Equipment for Worker Protection Poster.

3. Treat all human body fluids and items soiled with human body fluids (blood, blood products, seamen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, concentrated HIV/HAV/HBV, and saliva (in dental settings) as if contaminated with HIV/HAV/HBV. (**Note**: Feces, urine, nasal secretions, sputum, sweat, tears, or vomitus need not be treated as contaminated unless they contain visible blood)

4. No smoking, eating, drinking or storage of food products are permitted in patient treatment areas. Non-medical items, such as clothing and personal effects, should not be stored in the treatment facility.

5. Patient treatment areas will be maintained in a near sanitary condition at all times. Daily and at least once per shift, the Occupational Health Facility will be disinfected with antibacterial/viral solution (at least 10% Chlorine Bleach or equivalent). All medical and personal protective equipment contaminated with human body fluids will be disinfected before being returned for use again.

6. To avoid special handling, all clothing contaminated with human body fluid will be presoaked (sprayed on the affected areas) with the antibacterial/viral solution before being sent to the laundry. (**Note**: Gloves and eye protection should be worn when handling contaminated clothing until presoaked for 10 minutes)

7. Any spills of body fluid will be presoaked (sprayed on the affected area) with antibacterial/viral solution for 10 minutes before being removed. (**Note**: Gloves and eye protection should be worn when handling spills of body fluids)

8. Medical Wastes (those soiled with covered human body fluids) will be treated following the Medical Wastes Treatment and Disposal Procedures before being discarded as ordinary wastes.

9. Any suspected exposure to HIV/HAV/HBV by human body fluid contact (via broken skin, human bites, needle sticks, etc.) should be reported to your Supervisor immediately.

Control of Blood-Borne Pathogens Program

Medical Waste Treatment and Disposal Procedures

For Posting

1. All Medical Wastes (those soiled with covered human body fluids) will be placed in a red leak-proof container marked either Biohazard or Medical Waste. All other wastes will be discarded following customary procedures. (**Note:** Soiled feminine hygiene/sanitary napkins, soiled facial tissues, etc. are not considered a biohazard or medical waste. Pretreatment is not necessary; however, Employees should wear personal protective equipment and wash hands with antibacterial soap afterwards)

2. Don and use the required personal protective equipment when handling medical wastes as outlined in the Personal Protective Equipment for Worker Protection Poster.

3. At the end of each shift, all accumulated medical wastes will be treated to remove biohazards using the following procedure:

- Prepare a solution of 10 percent chlorine bleach to water (approximately 2 cups chlorine bleach to 1 gallon of water)
- Pour solution over the medical wastes and thoroughly saturate
- Let stand for 10 minutes and then drain into sink
- Discard as ordinary wastes

Caution: Sharp objects (broken glass, hypodermic needles, etc.) should not be handled by hand to prevent accidental punctures and lacerations

4. Rinse medical wastes container and return for use again.

5. Wash hands and exposed areas with antibacterial soap.

Don-Nan Pump & Supply
Crane & Hoist Safety

Purpose

Many types of cranes, hoists, and rigging devices are used at Don-Nan Pump & Supply for lifting and moving materials. Don-Nan Pump & Supply's policy is to maintain a safe workplace for its employees; therefore, it cannot be overemphasized that only qualified and licensed individuals shall operate these devices. The safety rules and guidance in this chapter apply to all operations at Don-Nan Pump & Supply that involve the use of cranes and hoists installed in or attached to buildings and to all Don-Nan Pump & Supply employees, supplemental labor, and subcontractor personnel who use such devices.

Responsibilities

Supervisors are responsible for:

- Ensuring that employees under their supervision receive the required training and are certified and licensed to operate the cranes and hoists in their areas.
- Providing training for prospective crane and hoist operators. This training must be conducted by a qualified, designated instructor who is a licensed crane and hoist operator and a full-time Don-Nan Pump & Supply employee.
- Evaluating crane and hoist trainees using the Crane Safety Checklist and submitting the Qualification Request Form to the Safety Office to obtain the operator's license.
- Ensuring that hoisting equipment is inspected and tested monthly by a responsible individual and that rigging equipment is inspected annually.

Crane and Hoist Operators are responsible for:

- Operating hoisting equipment safely.
- Conducting functional tests prior to using the equipment.
- Selecting and using rigging equipment appropriately.
- Having a valid operator's license on their person while operating cranes or hoists.
- Participating in the medical certification program, as required.

Engineering/Maintenance/Operations Department is responsible for:

- Performing annual maintenance and inspection of all Don-Nan Pump & Supply cranes and hoists that are not covered by a program with maintenance responsibility.
- Conducting periodic and special load tests of cranes and hoists.

- Maintaining written records of inspections and tests, and providing copies of all inspections and test results to facility managers and building coordinators who have cranes and hoists on file.
- Inspecting and load testing cranes and hoists following modification or extensive repairs (e.g., a replaced cable or hook, or structural modification.)
- Scheduling a non-destructive test and inspection for crane and hoist hooks at the time of the periodic load test, and testing and inspecting before use new replacement hooks and other hooks suspected of having been overloaded. The evaluation, inspection, and testing may include, but are not limited to visual, dye penetrant, and magnetic particle techniques referenced in ASME B30.10 (Hooks, Inspection and Testing.)
- Maintaining all manuals for cranes and hoists in a central file for reference.

Safety Department is responsible for

- Conducting training for all Crane & Hoist Operators
- Issuing licenses to Crane and Hoist Operators
- Periodically verifying monthly test and inspection reports.
- Interpreting crane and hoist safety rules and standards.

Safe Operating Requirements

All workers who use any Don-Nan Pump & Supply crane or hoist shall have an operator's license. The company issues licenses for authorized employees who have been specifically trained in crane and hoist operations and equipment safety.

Crane and Hoist Operators

To be qualified as a Crane and Hoist Operator, the candidate shall have received hands-on training from a licensed, qualified crane and hoist operator designated by the candidate's supervisor. Upon successful completion of training, the licensed crane and hoist operator and the candidate's supervisor will fill out and sign the Qualification Request Form and Crane Safety Checklist and send them to the Safety Office for approval. The candidate will be issued a license upon approval by the Safety Manager. Crane and Hoist Operators must renew their license every three years by satisfying the requirements described above.

Crane and Hoist Safety Design Requirements

Following are the design requirements for cranes and hoists and their components:

- The design of all commercial cranes and hoists shall comply with the requirements of ASME/ANSI B30 standards and Crane Manufacturer's Association of America standards (CMAA-70 and CMAA-74). Don-Nan Pump & Supply-fabricated lifting equipment shall comply with the

requirements in Chapter 2.2 (Lifting Equipment) of Mechanical Engineering *Design Safety Standards* (latest edition).

- All crane and hoist hooks shall have safety latches.
- Hooks shall not be painted (or re-painted) if the paint previously applied by the manufacturer is worn.
- Crane pendants shall have an electrical disconnect switch or button to open the main-line control circuit.
- Cranes and hoists shall have a main electrical disconnect switch. This switch shall be in a separate box that is labeled with lockout capability.
- Crane bridges and hoist monorails shall be labeled on both sides with the maximum capacity.
- Each hoist-hook block shall be labeled with the maximum hook capacity.
- Directional signs indicating N-W-S-E shall be displayed on the bridge underside, and a corresponding directional label shall be placed on the pendant.
- A device such as an upper-limit switch or slip clutch shall be installed on all building cranes and hoists. A lower-limit switch may be required when there is insufficient hoist rope on the drum to reach the lowest point.
- All cab and remotely operated bridge cranes shall have a motion alarm to signal bridge movement.
- All newly installed cranes and hoists, or those that have been extensively repaired or rebuilt structurally, shall be load tested at 125% capacity prior to being placed into service.
- If an overload device is installed, a load test to the adjusted setting is required.
- Personnel baskets and platforms suspended from any crane shall be designed in accordance with the specifications in 29 CFR 1926.550(g).

General Safety Rules

Operators shall comply with the following rules while operating the cranes and hoists:

- Do not engage in any practice that will divert your attention while operating the crane.
- Cranes must not be used unless ground conditions are able to support the equipment and any supporting materials per the manufacturer's specifications. Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specification for adequate support and degree of level of the equipment are met.

- Manufacture instructions and prohibitions must be followed at all times when assembling and/or disassembling equipment.
- Only a competent and qualified person will be allowed to direct the assembly/disassembly of equipment.
- Before operation, verify that all operation equipment is not within 20 feet of a power line. Identify the work zone and do a pre-operation hazard assessment. The work zone shall be identified by demarcating boundaries such as flag and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line.
- Proper measures must be taken if it is determined that any part of the equipment, load line or load can get closer to 20 feet to a power line:

  1.) Determine the line's voltage and minimum approach distance permitted in Table A

  2.) Ensure the power lines have been de-energized and visibly grounded

  3.) Ensure no part of the equipment, load line or load gets closer than 20 feet to the power line
- Respond to signals only from the person who is directing the lift or any appointed signal person. Obey a stop signal at all times, no matter who gives it.
- A visual inspection of all the equipment must be conducted by a competent person at the beginning or prior to each shift. These will include, but not limited to, control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires and ground conditions.
- All equipment must be inspected monthly by a competent person and documented.
- All safety devices on the equipment must be in proper working condition before operation begins.
- All manufacturer procedures that are applicable to the operational functions of equipment, including its use with attachments, must be complied with.
- The procedures that are applicable to the operation of the equipment will be readily available in the cab at all times. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operator's manual.
- The operator has the authority to stop and refuse to handle loads whenever there is a safety concern.

- If the operator's view is obstructed, if site specific safety requires it, or if the operator determines that it is necessary then a signal person must be provided.
- If a hazard is identified, it must be marked by boundaries of the crane swing radius with warning lines, railings, or similar barriers. This applies if the equipment has the potential to strike and injure an employee or pinch/crush an employee against any other object.
- Do not move a load over people. People shall not be placed in jeopardy by being under a suspended load. Also, do not work under a suspended load unless the load is supported by blocks, jacks, or a solid footing that will safely support the entire weight. Have a crane or hoist operator remain at the controls or lock open and tag the main electrical disconnect switch.
- Ensure that the rated load capacity of a crane's bridge, individual hoist, or any sling or fitting is not exceeded. Know the weight of the object being lifted or use a dynamometer or load cell to determine the weight.
- Check that all controls are in the OFF position before closing the main-line disconnect switch.
- If spring-loaded reels are provided to lift pendants clear off the work area, ease the pendant up into the stop to prevent damaging the wire.
- Avoid side pulls. These can cause the hoist rope to slip out of the drum groove, damaging the rope or destabilizing the crane or hoist.
- To prevent shock loading, avoid sudden stops or starts. Shock loading can occur when a suspended load is accelerated or decelerated, and can overload the crane or hoist. When completing an upward or downward motion, ease the load slowly to a stop.
- Any modifications or additions that may affect the capacity or safe operation of the equipment must not be made without written approval from the manufacturer or approval from a registered professional engineer.

Operation Rules

Pre-operational Test

At the start of each work shift, operators shall do the following steps before making lifts with any crane or hoist:

9. Test the upper-limit switch. Slowly raise the unloaded hook block until the limit switch trips.
10. Visually inspect the hook, load lines, trolley, and bridge as much as possible from the operator's station; in most instances, this will be the floor of the building.
11. If provided, test the lower-limit switch.
12. Test all direction and speed controls for both bridge and trolley travel.

13. Test all bridge and trolley limit switches, where provided, if operation will bring the equipment in close proximity to the limit switches.
14. Test the pendant emergency stop.
15. Test the hoist brake to verify there is no drift without a load.
16. If provided, test the bridge movement alarm.
17. Lock out and tag for repair any crane or hoist that fails any of the above tests.

Moving a Load

- Center the hook over the load to keep the cables from slipping out of the drum grooves and overlapping, and to prevent the load from swinging when it is lifted. Inspect the drum to verify that the cable is in the grooves.
- Use a tag line when loads must traverse long distances or must otherwise be controlled. Manila rope may be used for tag lines.
- Plan and check the travel path to avoid personnel and obstructions.
- Lift the load only high enough to clear the tallest obstruction in the travel path.
- Start and stop slowly.
- Land the load when the move is finished. Choose a safe landing.
- *Never* leave suspended loads unattended. In an emergency where the crane or hoist has become inoperative, if a load must be left suspended, barricade and post signs in the surrounding area, under the load, and on all four sides. Lock open and tag the crane or hoist's main electrical disconnect switch.

Parking a Crane or Hoist

- Remove all slings and accessories from the hook. Return the rigging device to the designated storage racks.
- Raise the hook at least 2.1 m (7-ft) above the floor.
- Store the pendant away from aisles and work areas, or raise it at least 2.1 m (7 ft) above the floor.
- Place the emergency stop switch (or push button) in the OFF position.

Rigging

General Rigging Safety Requirements

Only select rigging equipment that is in good condition. All rigging equipment shall be inspected annually; defective equipment is to be removed from service and destroyed to prevent inadvertent reuse. The load capacity limits shall be stamped or affixed to all rigging components.

Don-Nan Pump & Supply policy requires a minimum safety factor of 5 to be maintained for wire rope slings. The following types of slings shall be rejected or destroyed:

- Nylon slings with
    - Abnormal wear.
    - Torn stitching.
    - Broken or cut fibers.
    - Discoloration or deterioration.
- Wire-rope slings with
    - Kinking, crushing, bird caging, or other distortions.
    - Evidence of heat damage.
    - Cracks, deformation, or worn end attachments.
    - Six randomly broken wires in a single rope lay.
    - Three broken wires in one strand of rope.
    - Hooks opened more than 15% at the throat.
    - Hooks twisted sideways more than 10deg. from the plane of the unbent hook.
- Alloy steel chain slings with
    - Cracked, bent, or elongated links or components.
    - Cracked hooks.
- Shackles, eye bolts, turnbuckles, or other components that are damaged or deformed.

Rigging a Load

Do the following when rigging a load:

- Determine the weight of the load. Do not guess.
- Determine the proper size for slings and components.
- Do not use manila rope for rigging.
- Make sure that shackle pins and shouldered eyebolts are installed in accordance with the manufacturer's recommendations.
- Make sure that ordinary (shoulderless) eyebolts are threaded in at least 1.5 times the bolt diameter.
- Use safety hoist rings (swivel eyes) as a preferred substitute for eye bolts wherever possible.
- Pad sharp edges to protect slings. Remember that machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into

rigging when under several tons of load. Wood, tire rubber, or other pliable materials may be suitable for padding.

- Do not use slings, eyebolts, shackles, or hooks that have been cut, welded, or brazed.
- Install wire-rope clips with the base only on the live end and the U-bolt only on the dead end. Follow the manufacturer's recommendations for the spacing for each specific wire size.
- Determine the center of gravity and balance the load before moving it.
- Initially lift the load only a few inches to test the rigging and balance.

Crane Overloading

Cranes or hoists shall not be loaded beyond their rated capacity for normal operations. Any crane or hoist suspected of having been overloaded shall be removed from service by locking open and tagging the main disconnect switch. Additionally, overloaded cranes shall be inspected, repaired, load tested, and approved for use before being returned to service.

Working at Heights on Cranes or Hoists

Anyone conducting maintenance or repair on cranes or hoists at heights greater than 1.8 m (6 ft) shall use fall protection. Fall protection should also be considered for heights less than 1.8 m. Fall protection includes safety harnesses that are fitted with a lifeline and securely attached to a structural member of the crane or building or properly secured safety nets.

Use of a crane as a work platform should only be considered when conventional means of reaching an elevated worksite are hazardous or not possible. Workers shall not ride a moving bridge crane without an approval from the Safety Office, which shall specify the following as a minimum:

- Personnel shall not board any bridge crane unless the main disconnect switch is locked and tagged open.
- Personnel shall not use bridge cranes without a permanent platform (catwalk) as work platforms. Bridge catwalks shall have a permanent ladder access.
- Personnel shall ride seated on the floor of a permanent platform with approved safety handrails, wear safety harnesses attached to designated anchors, and be in clear view of the crane operator at all times.
- Operators shall lock and tag open the main (or power) disconnect switch on the bridge catwalk when the crane is parked.

Hand Signals

Signals to the operator shall be in accordance with the standard hand signals unless voice communications equipment (telephone, radio, or equivalent) is used. Signals shall be discernible or audible at all times. Some special operations may require addition to or modification of the

basic signals. For all such cases, these special signals shall be agreed upon and thoroughly understood by both the person giving the signals and the operator, and shall not be in conflict with the standard signals.

Inspection, Maintenance, and Testing

All tests and inspections shall be conducted in accordance with the manufacturers' recommendations.

Monthly Tests and Inspections

- All in-service cranes and hoists shall be inspected monthly and the results documented on Form _____
- Defective cranes and hoists shall be locked and tagged "out of service" until all defects are corrected. The inspector shall initiate corrective action by notifying the facility manager or building coordinator.

Annual Inspections

The _____Department shall schedule and supervise (or perform) annual preventive maintenance (PM) and annual inspections of all cranes and hoists. The annual PM and inspection shall cover

- Hoisting and lowering mechanisms.
- Trolley travel or monorail travel.
- Bridge travel.
- Limit switches and locking and safety devices.
- Structural members.
- Bolts or rivets.
- Sheaves and drums.
- Parts such as pins, bearings, shafts, gears, rollers, locking devices, and clamping devices.
- Brake system parts, linings, pawls, and ratchets.
- Load, wind, and other indicators over their full range.
- Gasoline, diesel, electric, or other power plants.
- Chain-drive sprockets.
- Crane and hoist hooks.
- Electrical apparatus such as controller contractors, limit switches, and push button stations.
- Wire rope.
- Hoist chains.

Load Testing

- Newly installed cranes and hoists shall be load tested at 125% of the rated capacity by designated personnel.
- Slings shall have appropriate test data when purchased. It is the responsibility of the purchaser to ensure that the appropriate test data are obtained and maintained.
- Re-rated cranes and hoists shall be load tested to 125% of the new capacity if the new rating is greater than the previous rated capacity.
- Fixed cranes or hoists that have had major modifications or repair shall be load tested to 125% of the rated capacity.
- Cranes and hoists that have been overloaded shall be inspected prior to being returned to service.
- Personnel platforms, baskets, and rigging suspended from a crane or hoist hook shall be load tested initially, then re-tested annually thereafter or at each new job site.
- All cranes and hoists with a capacity greater than 2722 kg (3 tons) should be load tested every four years to 125% of the rated capacity. Cranes and hoists with a lesser capacity should be load tested every eight years to 125% of the rated capacity.
- All mobile hoists shall be load tested at intervals to be determined by _____.

Records

_____ Department shall maintain records for all cranes, hoist and rigging equipment.

References

ASME/ANSI B30.2, "Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist)."

ASME/ANSI B30.9, "Slings."

ASME/ANSI B30.10, "Hooks."

ASME/ANSI B30.11, "Monorails and Underhung Cranes."

ASME/ANSI B30.16, "Overhead Hoists (Underhung)."

ASME/ANSI B30.17, "Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist)."

ASME/ANSI B30.20, "Below-the-Hook Lifting Devices."

ASME/ANSI B30.21, "Manually Lever Operated Hoists."

Code of Federal Regulation, Title 29, Part 1910.179, "Overhead and Gantry Cranes."

Code of Federal Regulation, Title 29, Part 1910.184, "Slings."

Code of Federal Regulation, Title 29, Part 1926.550, "Cranes and Derricks."

Mechanical Engineering Department *Design Safety Standards*, Chapter 2.2, "Lifting equipment."

CMAA Specification No. 70, *Specifications for Electric Overhead Traveling Cranes.*

CMAA Specification No. 74, *Specifications for Top-Running and Under-Running Single-Girder Electric Overhead Traveling Cranes Utilizing Under Running Trolley Hoist.*

NFPA 70, Article 610, *Cranes and Hoists.*

Don-Nan Pump & Supply
Disciplinary Action Program

These guidelines document the process for Disciplinary Action in the Don-Nan Pump & Supply organization to be enforced by Management with a goal Of ZERO accidents and injuries. It is the responsibility of Management to carry out the following actions:

- Disciplinary action will be taken for violation of company policy, safety procedures (ex. Not filling out a hot work permit) or work performance issues.
- Disciplinary actions will be effective for a minimum of (6) months.
- Initial disciplinary action will include but is not limited to a verbal and written warning.
- Subsequent violation while initial disciplinary action is in effect will result in but not limited to suspension.
- Additional violations while secondary disciplinary action is in effect may result in termination.
- A disciplinary action report will be used to document all actions taken.
- Depending on the severity of the violation, initial disciplinary action may include termination.

Employee signature: _____

Date: _____

Don-Nan Pump & Supply
Defensive Driving Policy & Procedures

Don-Nan Pump & Supply is strongly committed to a sound and thorough defensive driving policy.

While operating vehicles, drivers should always drive in the safest manner possible. Specifically, our drivers must operate vehicles in accordance with all provisions of this policy and obey all traffic laws as well as drive in a safe and prudent manner.

Any employee who is authorized to use any vehicle for company business must successfully complete the Defensive Driving Course.

1. Assignments for classes shall be made by the employee's supervisor to ensure class quotas are met and to maintain satisfactory work schedules.

2. Frequency of employee attendance of Defensive Driving Courses shall be once per year.

3. New employees required to drive company vehicles shall be required to complete the Defensive Driving Course satisfactorily before starting their driving assignment.

4. All vehicles used are intended for a specific purpose and are designed for that purpose and are the correct size.

The core concepts of defensive driving are:

- Recognize the hazard
- Understand the defense
- Act in time

Vehicle Accident Procedure

Step 1: Stop, stay calm

Step 2: Turn on your emergency flashers as an immediate warning signal. Then do a quick evaluation of accident victims, if any, and provide assistance. Next, set out emergency warning devices on the roadway.

Step 3: Either contact local law enforcement personnel and your supervisor yourself or arrange to have someone do it for you. Be courteous and cooperative when providing information to authorities. Never admit guilt or liability at the scene of an accident. Never leave the scene of an accident.

Step 4: Write down names, license numbers and other information regarding the accident and those people involved in it. Draw a simple diagram of the accident scene. The more detail you

can provide, the better it will be for insurance and/or legal purposes later. If you have a camera for use at the accident scene, document the situation with photographs from various angles.

Step 5: After the vehicle has been secured, warning devices put in place, assistance rendered to injured person(s) (if any), and law enforcement personnel contacted, you (the driver) should communicate the accident to your supervisor.

Step 6: Complete Vehicle Accident Report Form at the scene of the accident.

Defensive Driving Procedures

Intersections: Getting into and out of intersections without an accident is a mark of a good defensive driver. Besides your own skill level, intersections also demand anticipation of the actions of other drivers and taking appropriate evasive action as required.

Backing: Backing is an extremely hazardous maneuver. If you are backing with the assistance of a guide, the ultimate responsibility for the safety of the backing maneuver remains with you as the driver.

Front-End Collisions: The primary way to avoid front-end collisions is by maintaining a safe and adequate following distance. You should be prepared for possible obstructions on the roadway, either in plain sight or hidden by curves or the crests of hills. A special situation occurs at night, when speed should be kept to a level that will allow you to stop within the distance illuminated by the headlights of your vehicle.

Rear-End Collisions: As a driver, you risk being struck from behind if you do not maintain an adequate margin of safety in your own following distance. If enough space is not allowed in front of your vehicle, chances go way up that somebody can (and will) impact you from the rear.

Passing: Failure to pass safely indicates faulty judgment on your part as a defensive driver, and failure to consider one or more of the factors that need to be checked:

- Is there enough room ahead?
- Is there adequate space to move back into your lane of traffic after passing?
- Have you signaled your intentions?

Being Passed: As a driver, you must be aware of the actions of other drivers, and give way if another driver begins to sideswipe you or to cut you off. A good defensive driver will avoid problems with this kind of accident situation.

Encroaching on Other Traffic Lanes: Observant defensive drivers will not usually get trapped when other drivers change lanes abruptly. In the same manner, entrapment in merging traffic can be successfully avoided by a good defensive driver with a little preplanning and willingness to yield. Blind spots are not valid excuses for this kind of accident – allowances must be made in areas of limited sight distance.

Railroad Grade Crossings: Driving across railroad crossings, or in areas where there are rail vehicles of some sort, demands special care. Careful observance of the traffic situation is your best defense.

Oncoming Traffic: A defensive driver will avoid a collision with an oncoming vehicle at all costs. Even if the vehicle enters your lane of traffic, an accident can be avoided with some evasive maneuvers.

Turning: Turning, like passing, is a dangerous maneuver, and demands special care and an observant eye from you as a defensive driver. You should be aware of other vehicles in your path, and of the complete configuration of the turn you are about to undertake.

Pedestrians: As a sensible defensive driver, always assume that if there is a pedestrian (or small vehicle of some sort) involved in a situation, slowing down is your best defense. Be certain to give people and small vehicles the benefit of the doubt.

Extreme Weather and Road Conditions: Bad weather and other road hazards place special stress upon any defensive driver. The best rule in any kind of bad weather or extreme road condition is get off the road safely and as soon as possible. If you absolutely must continue, slowing way down and increasing following distance are your best defenses, along with increased awareness.

Fog: Fog reduces available visibility and impairs distance perception, making it perhaps the most dangerous type of extreme weather condition. Whenever possible, drivers are to avoid driving in extremely foggy conditions. Pull off the road and park safely until such time as the fog dissipates or is burned off, if at all possible. If you cannot safely pull off the road, follow these procedures:

- Never assume the depth or thickness of any fog. Fog can range from a momentary blurring of the windshield to being several miles thick.

- Slow your vehicle's speed. Reduction in speed should be done gradually in order to avoid becoming a hazard for other motorists. Determining a correct and safe speed depends on the thickness of the fog and is left to your best judgment.

- Use low-beam headlights only when driving in fog. Low-beams serve two purposes. They help you see the immediate roadway and also allow other motorists to see your vehicle.

- Avoid the use of high-beam headlights while driving in fog. The water particles that make up fog will reflect more light back at you than onto the roadway when high beams are used, and will further reduce visibility for you.

- Make use of windshield wipers and the defroster when driving in fog. Driving in foggy conditions will cause a constant fine mist of water to develop on the vehicle's windshield,

reducing visibility in the process. Using the windshield wipers and defroster will alleviate this condition.

- Avoid passing other vehicles while driving in fog.

- Avoid stopping on any roadway while driving in foggy conditions unless absolutely necessary. If you must stop, use the emergency or breakdown lane, activate your emergency flashers, turn off the headlights.

Rain: Rain causes roadways to become slippery, especially when it first begins. Roadways become covered with a thin layer of oil and other residues. When rain mixes with this layer, it results in an extremely slippery and dangerous road surface. This condition remains until additional rain can break down and wash away the oily mixture from the pavement. This process can take anywhere from a few minutes to several hours, depending on the severity of the rain.

Water on the road surface can also create a potential hazard of hydroplaning. Hydroplaning happens when a thin layer of water separates the vehicle's tires from the road surface. When a vehicle is hydroplaning, it is literally riding on water. When the tires ride on water, they lose all traction and create an extremely dangerous situation. The faster a vehicle travels on standing water, the greater the chance of hydroplaning. Reducing speed is the best and safest way to avoid hydroplaning.

Rain also reduces visibility. Because rain presents these hazards, drivers are expected to adhere to the following procedures when driving in rainy conditions:

- Slow the vehicle's speed to avoid hydroplaning. Reduction in speed should be done gradually in order to avoid becoming a hazard for other motorists. Determining the correct and safe speed depends on how heavy the rain is and will be left to your best judgment.

- Increase your following distance from other motorists. Since rain causes the road surface to become slippery, you need to allow for greater stopping distance if the need to stop arises.

- Use windshield wipers and the defroster when driving in rain. Driving in rainy conditions will cause a constant film of water to develop on the vehicle's windshield, reducing visibility in the process. Using the windshield wipers and defroster will alleviate this condition.

- You should avoid passing other vehicles while driving in rain. In addition, you are encouraged to follow other vehicles at a safe distance since vehicles traveling ahead will throw water off the pavement and leave "tracks". Driving in these tracks will give you the best possible traction under rainy conditions.

Snow: Snow, depending on the type and severity, can present a variety of dangerous conditions. Because of this, the following procedures have been developed for this defensive driving policy:

- Light, powdery snow presents few problems since it is quickly blown of the road surface. However if there is enough of this type of snow to cover the roadway, it will form a slick, smooth surface. You should reduce speed and increase following distance. Determining the correct speed and safe following distance will be left to your best judgment.

- Heavier, slushy snow can affect vehicle control. If snow becomes hard packed it can cause an ice hazard on the road surface. Again, you should reduce speed and increase following distance. Determining the correct speed and safe following distance will be left to your best judgment.

- All slow maneuvers such as starting out, steering, backing, and turning should be done smoothly and with extreme care to minimize skids and slides.

- Falling or blowing snow can greatly reduce visibility. In addition, falling and blowing snow can make it hard to see the road, road markings, road signs, and off ramps. If you must continue in snowy conditions, reducing speed and increasing following distance are the best techniques a driver can use to maintain vehicle control.

- As with driving in foggy conditions, the use of high beam headlights while driving in snowy conditions should be avoided at all times. The high-beam "shooting" light will reflect off falling and blowing snow and reflect back at you, further reducing visibility.
- Drivers will also be educated on the dangers of "snow hypnosis". Snow hypnosis occurs when a driver is traveling directly into heavy snow and begins to focus on the falling snow instead of the road ahead. This can cause a hypnotic-like effect on the driver. The danger of snow hypnosis is especially prevalent at night.

- In extreme conditions, chains may be necessary

Ice: Drivers need to be aware of changes in road surface conditions that may affect the vehicle's traction. To help, the following procedures for driving on icy roads for this defensive driving policy have been developed:

- As with all extreme weather conditions, if you must continue, the safest techniques to employ are to reduce speed and increase your following distance. But of these two, increasing following distance is by far the most important. Depending on the temperature and road conditions, stopping distance (distance needed to come to a complete stop) on icy roads can increase four to ten times versus stopping from the same speed on a dry road.

- “Black Ice” forms when temperatures drop rapidly and any moisture on the road surface freezes into a smooth, almost transparent layer of ice. What makes black ice particularly dangerous is that you may not realize you are on it until it's too late. Determining the correct speed and safe following distance will be left to your best judgment.

- Bridges and overpasses are other areas to which you should give special attention. Ice will tend to form first on bridges and overpasses because cold air circulates both above and below these structures causing the temperature to drop more rapidly than on normal roads. Any moisture on the road surface of a bridge or overpass will freeze quicker and harder than elsewhere on the road. Extreme caution and a reduction in speed should be used while traveling over bridges and overpasses.

Night Driving: All drivers need to be aware of the potential hazards driving at night present. These hazards include fatigue, reduced visibility, poor lighting, other (impaired) motorists, and animals on the road. To help drivers better prepare for driving at night, the following procedures have been developed for this defensive driving policy:

Fatigue is perhaps the most dangerous hazard of driving at night. Nothing we do is worth any one getting hurt.

Fatigue usually sets in at night, but a tired driver, at any time of day, is an unsafe driver. Fatigue reduces drivers' reaction time and perception. All drivers are to review the following fatigue warning signs:

- Your eyes close or go out of focus by themselves.

- You can't stop yawning.

- You are experiencing trouble keeping your head up.

- You experience short-term memory loss. For example, you can't remember the last several miles you have driven.

- Your thoughts wander or you begin to daydream.

- You start drifting into other lanes of traffic, tailgate, or miss traffic signs.

- You experience an inability to maintain a constant rate of speed.

- You must jerk the steering wheel hard to correct a drift and get back into your lane.

If you experience any of these signs, it's time to get off the road as soon as safely possible and get some rest.

- Reduced visibility is a hazard of driving at night. At night, visual acuity (degree of perception) and peripheral vision (side vision) are reduced, and the eyes may have difficulty adjusting from light to darkness. These factors all contribute to reduced visibility while driving at night. The best and safest techniques to counteract these night driving hazards are to reduce your speed and increase your following distance. Reducing speed is also the best way to prevent "over-driving" your headlights.

- Poor lighting on the open highway or on rural roads is another hazard drivers should be made aware of. At night, with poor or no lighting aside from the vehicle's headlights, hazards in the road are much more difficult to see and avoid. You should reduce speed and use extra caution when traveling on poorly lit or unfamiliar roads.

- Impaired motorists (drunk drivers) are a hazard to everyone on the road. Drivers should be especially cautious when driving between the hours of midnight and 0300 (typical bar and tavern closing times). Drivers should be wary of motorists driving in an erratic manner including weaving in and out of traffic lanes, having difficulty maintaining a constant rate of speed, or braking suddenly. If you, as a driver, suspect that you are sharing the road with an impaired motorist, reduce your speed, let the motorist pass, and increase following distance.

- Animals on the road present another kind of hazard while driving at night. Drivers are to be especially alert when driving on roadways lined by woods or tall grass. Animals, especially deer, can jump out in front of an oncoming vehicle with little or no warning. The best techniques to avoid collisions with animals are to not "over-drive" your headlights and to reduce speed. If a collision with an animal is unavoidable, you should drive "through" the animal. This will help prevent a jackknife or rollover type accident.

Road Construction: Chances are good that from time to time our drivers will be faced with having to drive on roadways that are being repaired or under construction. Road construction presents several hazards. Because of this, our drivers are expected to approach road construction work zones the same way they would any adverse driving situation and follow these procedures:

- Reduce speed and maintain a safe following distance.

- Drive at or under all special or reduced posted speed limits while traveling through road construction work zones. Safe following distance will be left to your best judgment.

- Be constantly aware of your immediate surroundings, anticipate the possible actions of other motorists, and expect sudden stops.

- Watch for construction workers or vehicles crossing the roadway.

- Use the lane furthest from a construction zone when possible.

- Avoid sudden lane changes and use headlights and four-way flashers when traveling through construction zones.

Road Hazards: Drivers should be aware of the potential danger of encountering various types of road hazards including:

- Soft shoulders or severe pavement drop-offs that can cause rollover type accidents.
- Road debris such as tire recaps, metal or lumber can cause severe damage to tires, tire rims, electrical systems, and brake lines. You should be aware of the road ahead to identify potential road debris early and take safe and appropriate avoidance maneuvers.

Underpasses: Hitting a bridge, underpass, or viaduct is a danger you should be constantly aware of. This type of accident, often referred to as "topping" a trailer, is always preventable. Drivers need to be aware that the posted height of an underpass is not always accurate. Re-paving and packed snow can reduce the clearance of an overpass enough to cause a problem. In addition, an empty trailer will ride higher than when it is loaded. You should make thorough trip plans. When in doubt of the clearance of an underpass, you should get out of your vehicle and make a visual inspection or find an alternate route.

Fixed Objects and Special Intersections: A good defensive driver will observe items in the area around the vehicle that might cause problems. Checking to be certain there is adequate clearance is the primary thing to watch. In the areas of driveways, alleyways or plant entrances, the effective defensive driver will analyze the situation carefully, slow down, sound a warning when appropriate, and be ready to yield to the other driver involved.

Physical and Mental Condition: Drivers are expected to manage their physical and mental condition. That especially means keeping a positive attitude when behind the wheel, and taking good care of their physical health. Fatigue is an especially dangerous factor to be aware of.

Following Distance: Tailgating is probably the single most common complaint lodged by the general driving public against truck drivers. Here are some specific following distance guidelines:

- 3-second interval at speeds up to 40 mph,
- 4-second interval at any speed over 44 mph,
- add extra time in bad weather or poor road conditions,
- add extra following distance if you are being tailgated.

Driving Speed: You should drive consistent with posted speed limits, with due regard given to existing traffic, weather and highway conditions. Never overdrive your headlights at night. That means you should be able to stop safely in the distance you can see clearly in your headlights.

Right of Way: As a defensive driver, you should never attempt to exercise the right of way principle. Let the other driver go first. Keep to the right except to pass, or when getting into position to turn left. In town, when you enter a main thoroughfare from a side street, alley, driveway or a highway ramp, make a full stop at any crosswalk, then another full stop before actually moving into traffic.

Meeting Other Vehicles: Keep to the right when meeting other vehicles on a roadway. If a vehicle approaches on your side of the road, slow down and pull to the right as far as you safely can. If you have to take this kind of evasive action, and
have actually gone off the highway onto the shoulder, be certain you slow the vehicle down sufficiently before you attempt to come back onto the highway. Never pull to the left to avoid an oncoming vehicle.

When merging onto a highway drivers are expected to:

- Signal early,
- Be patient and watch for an opening,
- Build speed and merge smoothly,
- Check mirrors constantly.

When exiting a highway drivers are expected to:

- Signal and change into the right-hand lane early and safely,
- Signal intentions to exit early,
- Check mirrors constantly,
- Reduce speed and exit.

Curves and Turns: The most important thing to remember in successfully negotiating curves and turns is to slow down BEFORE you enter the curve. That way you will be able to make any needed adjustments in steering, etc. as required.

Don-Nan Pump & Supply
Electrical Safety

Purpose:

The Electrical Safety program is designed to prevent electrically related injuries and property damage. This program also provides for proper training of maintenance employees to ensure they have the requisite knowledge and understanding of electrical work practices and procedures. Only employees qualified in this program may conduct adjustment, repair or replacement of electrical components or equipment. Electricity has long been recognized as a serious workplace hazard, exposing employees to such dangers as electric shock, electrocution, fires and explosions. References: NFPA 70E, Electrical Safety Requirements for Employee Workplaces, National Electrical Code (NEC) and OSHA Standard (Electrical Safety) 29 CFR 1910.331 to 1910.339

Responsibilities

Management:

Provide training for qualified and unqualified employees

Conduct inspections to identify electrical safety deficiencies

Guard and correct all electrical deficiencies promptly

Ensure all new electrical installations meet codes and regulations

Employees:

Report electrical deficiencies immediately

Not work on electrical equipment unless authorized and trained

Properly inspect all electrical equipment prior to use

Hazard Control

Engineering Controls:

- All electrical distribution panels, breakers, disconnects, switches, junction boxes shall be completely enclosed
- Water tight enclosure shall be used where there is possibility of moisture entry either from operations or weather exposure
- Electrical distribution areas will be guarded against accidental damage by locating in specifically designed rooms, use of substantial guard posts and rails and other structural means
- A clear approach and 3 foot side clearance shall be maintained for all distribution panels.

- All conduits shall be fully supported throughout its length. Non-electrical attachments to conduit are prohibited.
- All non-rigid cords shall be provided strain relief where necessary.

Administrative Controls:

- Only trained and authorized employees may conduct repairs to electrical equipment.
- Contractors performing electrical work must be hold a license for the rated work
- Areas under new installation or repair will be sufficiently guarded with physical barriers and warning signs to prevent unauthorized entry
- Access to electrical distribution rooms is limited to those employees who have a need to enter
- All electrical control devices shall be properly labeled
- Work on energized circuits is prohibited unless specifically authorized by senior facility management
- All qualified employees will follow established electrical safety procedures and precautions

Protective Equipment:

- Qualified employees will wear electrically rated safety shoed/boots.
- All tools used for electrical work shall be properly insulated
- Electrical rated gloves shall be available for work on electrical equipment
- Electrically rated matting will be installed in front of all distribution panels in electric utility rooms

Electrical Equipment

Examination:

Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees. Safety of equipment shall be determined using the following considerations:

- Suitability for installation and use in conformity with the provisions of this subpart. Suitability of equipment for an identified purpose may be evidenced by listing or labeling for that identified purpose.
- Mechanical strength and durability, including, for parts designed to enclose and protect other equipment, the adequacy of the protection thus provided.

- Electrical insulation.
- Heating effects under conditions of use.
- Arcing effects.
- Classification by type, size, voltage, current capacity, and specific use.
- Other factors which contribute to the practical safeguarding of employees using or likely to come in contact with the equipment.

Identification of Disconnecting Means and Circuits:

Each disconnecting means for motors and appliances shall be legibly marked to indicate its purpose. Each service, feeder, and branch circuit, at its disconnecting means or overcurrent device, shall be legibly marked to indicate its purpose. These markings shall be of sufficient durability to withstand the environment involved.

A disconnecting means is a switch that is used to disconnect the conductors of a circuit from the source of electric current. Disconnect switches are important because they enable a circuit to be opened, stopping the flow of electricity, and thus can effectively protect workers and equipment.

Each disconnect switch or overcurrent device required for a service, feeder, or branch circuit must be clearly labeled to indicate the circuit's function, and the label or marking should be located at the point where the circuit originates. For example, on a panel that controls several motors or on a motor control center, each disconnect must be clearly marked to indicate the motor to which each circuit is connected. In the figure below, the Number 2 circuit breaker in the panel box supplies current only to disconnect Number 2, which in turn controls the current to motor Number 2? This current to motor Number 2 can be shut off by the Number 2 circuit breaker or the Number 2 disconnect.

All labels and markings must be durable enough to withstand weather, chemicals, heat, corrosion, or any other environment to which they may be exposed.

Definition of Terms

Qualified Worker: An employee trained and authorized to conduct electrical work.

Unqualified: Employees who have not been trained or authorized by management to conduct electrical work.

Training

Training for Unqualified Employees:

Training for Unqualified Employees is general electrical safety precautions to provide an awareness and understanding of electrical hazards..

Electrical Safety Rules for Non-Qualified Workers:

1. Do not conduct any repairs to electrical equipment
2. Report all electrical deficiencies to your supervisor

3 Do not operate equipment if you suspect and electrical problem

4. Water and electricity do not mix.
5. Even low voltages can kill or injure you
6. Do not use cords or plugs if the ground prong is missing
7. Do not overload electrical receptacles

Training for Qualified Employees:

Training for Qualified Employees includes specific equipment procedures and requirements of Electrical Safety, 29 CFR 1910.331 to 1910.339

Training for employees (qualified and unqualified) who face a risk of electric shock that is not reduced to a safe level by proper electrical installation. Training can be either in the classroom or on-the-job type. The degree of training required is dependent upon the risk to the employee. Specific required training includes:

- Skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- Skills and techniques necessary to determine the nominal voltage of exposed live parts,
- Clearance distances specified in OSHA Standard 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

Personal Protective Equipment:

Employees working in areas where the potential contacts with exposed electrical sources are present and likely, will be provided and shall use Personal Protective Equipment (PPE). The following rules apply to the use and care of PPEs:

1. PPEs shall be used where contact with exposed electrical sources are present and likely.

2. PPEs shall be designed for the work being performed and environment in which it is used.

3. PPEs shall be visually inspected and/or tested before use. Any defects or damage shall be replaced, repaired or discarded.

4. In cases where the insulating capabilities of the PPEs may be damaged during the work, a protective outer cover, such as leather, must be used.

5. Employees shall wear non-conductive head protection wherever there is a danger of injury from electrical burns or shock from contact with exposed energized parts.

6. Employee shall wear protective eye/face equipment whenever there is a danger from electrical arcs or flashes or from flying objects resulting from an electrical explosion.

Electrical PPE Inspection Schedule

Type of equipment	When to test
Rubber insulating line hose	Upon indication that insulating value is suspect.
Rubber insulating covers	Upon indication that insulating value is suspect.
Rubber insulating blankets	Before first issue and every 12 months
Rubber insulating gloves	Before first issue and every 6 months
Rubber insulating sleeves	Before first issue and every 12 months

Electrical Lockout & Tagout Requirements

Application of locks and tags:

A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed, except as provided for below.

1. The lock shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.

2. Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.

3. If a lock cannot be applied a tag may be used without a lock.

4. A tag used without a lock must be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by use of a lock. Examples of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

5. A lock may be placed without a tag only under the following conditions:

A. Only one circuit or piece of equipment is de-energized, and

B. The lockout period does not extend beyond the work shift, and

C. Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.

Working at Elevated Locations:

Any person working on electrical equipment on a crane or other elevated must take necessary precautions to prevent a fall from reaction to electrical shock or other causes. A second person, knowledgeable as a safety watch, must assume the

best possible position to assist the worker in case of an accident. Portable ladders shall have non-conductive siderails if they are used where the employee or the ladder could contact exposed energized parts.

General Protective Equipment and Tools:

General Protective Equipment and Tools shall be used when in the proximity of, or working on, exposed energized parts. The following rules apply:

1. When working on or near exposed energized parts, Qualified Employees shall use insulated tools or handling equipment suitable for the voltage present and working environment. In cases where the insulation may be damaged, a protective outer layer should be employed.

2. Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the terminal is energized.

3. Ropes and other handlines used near exposed energized equipment shall be non-conductive.

Warnings and Barricades:

Warnings and barricades shall be employed to alert unqualified Employees of the present danger related to exposed energized parts. The following rules apply:

1. Safety signs, warning tags, etc., must be used to warn Unqualified Employees of the electrical hazards present, even temporarily, that may endanger them.

2. Non-conductive barricades shall be used with safety signs to prevent Unqualified Employees access to exposed energized parts or areas.

3. Where barricades and warning signs do not provide adequate protection from electrical hazards, an Attendant shall be stationed to warn and protect Employees.

Powered Equipment Safety Rules:

Electrical equipment is defined as cord or plug-type electrical devices which include the use of flexible or extension cords. Examples of portable electrical equipment included powered hand tools, powered bench tools, fans, radios, etc. The following safety rules apply to portable electrical equipment (PEE):

1. PEE shall be handled in such a manner as to not cause damage. Power cords may not be stapled or otherwise hung in a way that may cause damage to the outer jacket or insulation.

2. PEE shall be visually inspected for damage, wear, cracked or spilt outer jackets or insulation, etc., before use or before each shift. PEE that remain connected once put in place need not be inspected until relocated. Any

defects; such as cracked or split outer jackets or insulation must be repaired, replaced or placed out of service.

3. Always check the compatibility of cord sets and receptacles for proper use.

4. Ground type cord sets may only be used with ground type receptacles when used with equipment requiring a ground type conductor.

5. Attachment plugs and receptacle may not be altered or connected in a way that would prevent the proper continuity of the equipment grounding conductor. Adapters may not be used if they interrupt the continuity of the grounding conductor.

6. Only portable electrical equipment that is double insulated or designed for use in areas that are wet or likely to contact conductive liquids may be used.

7. Employees that are wet or have wet hands may not handle PEEs (plug-in, un-plug, etc.). Personal protective equipment must be used when handling PEEs that are wet or covered with a conductive liquid.

8. Locking-type connectors shall be properly secured after connection to a power source.

Electrical Circuit Safety Procedures:

Electrical power and lighting circuits are defined as devices specifically designed to connect, disconnect or reverse circuits under a power load condition. When these circuits are employed, the following rules apply:

1. Cable connectors (not of load-break type) fuses, terminal plugs or cable splice connectors may not be used, unless an emergency, to connect, disconnect or reverse in place of proper electrical circuits.

2. After a protective circuit is disconnected or opened, it may not be connected or closed until it has been determined that the equipment and circuit can be safely energized.

3. Overcurrent protectors of circuits or connected circuits may not be modified, even on a temporary basis, beyond the installation safety requirements.

4. Only Qualified Employees may perform test on electrical circuits or equipment.

5. Test equipment and all associated test leads, cables, power cords, probes and connectors shall be visually inspected for external damage before use.

Any damage or defects shall be repaired before use or placed out of service.

6. Test equipment shall be rated to meet or exceed the voltage being tested and fit for the environment in which it is being used.

7. Where flammable or ignitable materials are stored, even occasionally, electrical equipment capable of igniting them may not be used unless measures are taken to prevent hazardous conditions from developing.

Standard Operating Procedure

Electrical Pre-Work Procedure:

Except in extreme cases, work on electrical equipment will be done with all electrical circuits in the work area de-energized by following the Lockout/Tagout procedure. When working on or near energized electrical circuits with less than 30 volts to ground, the equipment need not be de-energized if there will be no increased exposure to electrical burns or to explosion from electric arcs.

To prepare for work on electrical systems or components, the following procedure applies:

Caution: Treat all electrical circuits as "Live" until they have been Tagged and Locked Out and tested by the following procedure.

1. Obtain permission from supervisor to conduct work
2. Lockout and Tagout all sources of electrical power
3. Verify de-energized condition before any circuits or equipment are considered and worked as de-energized.
    - A. A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
    - B. Verify proper operation of the Voltmeter at a live electrical source of the same rated voltage as the circuit to be worked.
    - C. Using the Voltmeter, check all exposed circuits phase to phase and phase to ground for evidence of voltage/current in the circuit.
    - D. Conduct work on the circuit only after determining that there is no voltage in any of the exposed circuits.
    - E. If voltage is detected in any exposed circuit, STOP, inform supervisor and determine source and procedure to eliminate voltage.
4. Conduct work
5. Close up all exposed circuits, boxes, controls, equipment.
6. Remove Lockout/Tagout
7. Obtain supervisor permission to energize circuits

Standard Operating Procedure

Working on or Near Exposed Energized Circuits:

In the rare situation when energized equipment (or working in near proximity to energized equipment) cannot be de-energized, the following work practices must be used to provide protection:

Caution: Unqualified Employees are prohibited from working on or near exposed energized circuits.

1. Obtain permission from Manager to work on or near energized electrical circuits

2. Lockout and Tagout all circuits possible

3. Treat all circuits as energized.

4. Remove all conductive clothing and jewelry (rings, watches, wrist/neck chains, metal buttons, metal writing instruments, etc.).

5. Use proper personal protective equipment, shields and/or barriers to provide effective electrical insulation from energized circuits. This may include electrically rated insulated gloves, aprons, rubber soled shoes, insulated shields, insulated tools, etc.

6. Provide adequate lighting. Do not enter areas with exposed energized parts unless illumination (lighting) is provided so that Employee may work safely. Do not reach around obstructions of view or lighting (blindly) into areas where exposed energized parts are located.

7. Employees entering a Confined Space with exposed energized parts must use protective barriers, shields, or equipment or insulated materials rated at or above the present voltage to avoid contact.

8. Doors or other hinged panels shall be constructed and secured to prevent them from swinging into an Employee and causing contact with exposed energized parts.

9. Housekeeping in areas of exposed energized parts may not be completed in areas with close contact unless adequate safeguards (insulation equipment or barriers) are present. Conductive cleaning material (Steel Wool, Silicon Carbide, etc.) or liquids may not be used unless procedures (Lock and Tag Out, etc.) are in place and followed.

10. Station a safety observer outside work area. The sole function of this person is to quickly de-energize all sources of power or pull worker free from electrical work area with a non-conductive safety rope if contact is made with an energized electrical circuit.

11. A person qualified in CPR must be readily available to the scene.

Standard Operating Procedure

Re-energizing Electrical Circuits After Work Completed:

These requirements shall be met, in the order given, before circuits or equipment is reenergized, even temporarily.

1. A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such

devices have been removed, so that the circuits and equipment can be safely energized.

2. Warn employees exposed to the hazards associated with reenergizing the circuit or equipment to stay clear of circuits and equipment.

3. Remove each lock and tag. They shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified supervisor designated to perform this task provided that:

> A. The supervisor ensures that the employee who applied the lock or tag is not available at the workplace, and
>
> B. The supervisor ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.

4. Conduct a visual determination that all employees are clear of the circuits and equipment.

Don-Nan Pump & Supply
Emergency Action Plan

It is not the intent of Don-Nan Pump & Supply to have its employees trained as professional fireman or emergency response teams. They are to be first responders only. Their training shall include the use and care of fire extinguishers, how to respond to an emergency situation, First Aid/ CPR training and proper notification procedures.

EMERGENCY PROCEDURES:

Office:

If the emergency is a fire, other than an incipient fire that can be controlled with a fire extinguisher, then the employee is to flee through the nearest marked exit that is away from the emergency, notify all employees and guest that are on the premises and then assemble on the east side of the street. The office manager will then account for all personnel. The office manager will designate someone to contact 911.

If the emergency is weather related such as a tornado, high winds or severe lightning storm, all employees and guest will assemble in the hall and sit on the floor.

Field: (Accidents and injuries)

If the emergency does not involve a fatality, then the employee will administer First Aid and or CPR at their discretion and contact the management of Don-Nan Pump & Supply**.**

If the emergency does involve a fatality, then the employee will contact the management of Don-Nan Pump & Supply**.** The management of Don-Nan Pump & Supply will contact 911.

The employee will stay on location and allow only authorized personnel to enter. The employee will return to the office and put into writing everything that he/she witnessed.

The Occupational Safety and Health Administration must be contacted within 8 hours of any fatality or catastrophe that involves employees of Don-Nan Pump & Supply**.**

Note: A catastrophe is any accident that puts two or more people in the hospital.

Field: (Fires and weather)

If the emergency is a fire that cannot be controlled with a fire extinguisher, then the employee is to flee upwind, if possible, then contact 911. The employee will then contact the management of Don-Nan Pump & Supply**.**

If the emergency is weather related such as high winds or tornado, then the employee is to get in a low area such as a ditch or draw, taking care to check for toxic fumes etc.

If emergency is lightning storm, then employees are to get into vehicle and move away from storage tanks. Do not get into any vehicle that has extended poles or derricks.

FIRE PREVENTION PLAN:

Office and Field Areas:

- Flammable chemicals shall be stored or transported in approved containers only.
- Portable fire extinguishers will be inspected monthly.
- Ignition Sources shall be kept clear of flammable materials. Examples: cigarettes, lighters, and matches etc.
- Burning of waste oil, grass, weeds, brush, trash, or flammable material is prohibited without management approval.

VIOLENT AND HOSTILE BEHAVIOR:

- Any act or threatened act of violence on the part of anyone in a Don-Nan Pump & Supply area or on a customer's location must be reported to management and management will investigate and call law enforcement if necessary.
- Employees are not to endanger their own welfare if the person engaging in the violent act is armed in any manner. The employee is to flee the area and notify all other personnel, notify local law enforcement.

EMERGENCY PREPAREDNESS

Objectives:

To stress the importance of always expecting, and thus being prepared to handle, emergencies and to highlight the existence and value of the company's emergency contingency plan. The results should be fast, proper response in the event of an emergency.

Suggested Materials to Have on Hand:

- Company contingency plan
- First-aid kit
- Fire extinguisher
- Map of emergency evacuation route
- Names and phone numbers of people inside and outside the company to contact in an emergency.

Note: You may want to include a test sounding of your company's alarm system or walk workers through a proper evacuation as part of this objective.

Introduction/Overview:

The purpose of all our safety meetings and training programs is to alert you to the risks you may encounter on the job and to prepare you to avoid those risks when possible.

Sometimes, however, accidents happen, so you also have to be prepared to deal with emergencies that arise.

There are two old sayings that apply to emergencies:

1. Murphy's Law: Whatever can go wrong will go wrong.
2. The Boy Scout slogan: Be prepared.

We have a contingency plan here that covers all different types of emergencies. But the best-laid plans count for nothing if don't know about them and don't follow them.

In most emergencies, your role is limited. One of the keys to handling these situations is to turn them over to people who have special training and who have the proper equipment for the job.

But even if you're not part of a special emergency crew, you still have two important roles to play: getting yourself away safely and doing what you can to expedite and clear the way for the people handling the problem.

OSHA Regulations:

OSHA requires companies to be equipped and prepared to deal with various kinds of emergencies.

The agency defines in detail the exits that must be available (1910.37). It also requires written emergency plans for most companies (1910.38) that include:

- Emergency escape procedures and routes
- Procedures for employees who operate critical plant operations before evacuating
- Procedures to account for employees following emergency evacuation
- Rescue and medical duties for assigned employees
- Means of reporting emergencies
- People to contact for further information.

This regulation also requires an alarm system, which is further detailed in the regulations for fire protection (1910.165), an evacuation plan, and training for employees regarding the plan.

The Hazard Communication Standard (1910.1200(h)) also requires companies to include emergency procedures in the information and training they provide to employees.

Identifying Hazards:

The first step in emergency preparedness is being familiar with all the risks in your work area:

- Flammable liquids and the circumstances in which they could catch fire
- Reactive chemicals and the types of reactions they could cause
- Explosive agents and what could cause them to explode
- Electrical hazards that could cause fires
- Vapors and dusts that could burn or explode
- Chemical vapors that could be toxic in the air

- Confined space entry

In other words, work on the premise that anything that could go wrong will go wrong. Pay attention to what you're working with and where you're using it. Know what problems could arise so that you can take steps to prevent them and so you'll know what to do if the worst happens.

Protection Against Hazards:

Among your best protections against accidents that could lead to real emergencies are chemical labels and material safety data sheets.

Study the information they provide whenever you're working with or around a hazardous chemical. They'll tell you what could go wrong, as well as what procedures to follow to prevent accidents from occurring.

If you get in the habit of always referring to labels and MSDS's, and always following their instructions as well as what you learn in safety training, you'll be doing your part to prevent incidents that become what we consider emergencies.

Safety Procedures:

But accidents do happen, whether someone is at fault or not. So it's important to be totally familiar with the procedures to follow in an emergency. In a real emergency, there's not enough time to think and to look things up. You have to act fast and do it right.

Here's what to keep in mind:

Note: The following is a general description of emergency plan components.

- Know how to report a fire, spill or other incident. The names and numbers of people to contact are posted next to each phone. Keep in mind that you must act quickly. If people have to be evacuated or if the problem has to be contained, there is no time to lose. There could be lives at stake.
- Recognize the sound of the emergency alarm.
- Know your responsibilities for shutting down operations or systems.
- Know where to find first-aid supplies and fire extinguishers.
- Follow your assigned evacuation route and meet at your assigned assembly point. Don't wander around. We have to be able to find you to make sure you are safe.
- If you have emergency response responsibilities, follow your instructions on where to go and what to do.

These procedures are vitally important. There is no time to waste when people's safety and even lives are at risk. In some of these emergencies, outside people such as fire departments and chemical response emergency teams also have to be involved. Emergencies such as spills and toxic releases also have to be reported to specific people in the community.

To keep an emergency from becoming a disaster, everyone has to play his or her own role perfectly. Your role is critical even if you aren't assigned to put out fires

or clean up spills. If you don't fulfill your responsibilities quickly and properly, those people won't be able to fulfill theirs.

Suggested Discussion Questions:

1. What are some of the types of emergencies we might have here?
2. What are some of the materials we work with that could create accidents?
3. Where can we get information on risks and protections?
4. What should you do if you spot a fire or spill?
5. What is your evacuation route?
6. Where do you assemble after evacuating?
7. Where do we keep first-aid supplies and fire extinguishers?
8. Why is it important to act quickly in an emergency?

Wrap-Up:

Emergency preparedness is everyone's responsibility. The company has worked hard to prepare a detailed plan to handle emergencies and has trained and equipped people to deal with specific types of accidents. But everyone in the company has emergency responsibilities:

- To be informed about risks
- To take steps to prevent accidents
- To respond quickly in an emergency
- To follow emergency procedures quickly and properly

We want a safe workplace, and even if some unforeseen accident occurs, we want everyone to get out of it in good condition. So know exactly what to do in an emergency-and do it.

Don-Nan Pump & Supply
Fall Protection

Purpose:

The purpose of the fall protection program is to:

- ensure all areas are free from uncontrolled fall hazards
- all employees are properly trained in fall prevention and protection
- fall prevention systems are inspected and monitored to ensure effectiveness

Policy:

It is the policy of Don-Nan Pump & Supply to take all practical measures possible to prevent employees from being injured by falls. We will take necessary steps to eliminate, prevent, and control fall hazards. We will comply fully with the OSHA Fall Protection standard (CFR 1926, Subpart M, Fall Protection). The first priority is given to the elimination of fall hazards. If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling.

All employees exposed to potential falls from heights will be trained to minimize the exposures. Fall protection equipment will be provided and its use required by all employees. Foreman will be responsible for implementation of a fall protection plan for their jobsite.

Hazard Identification:

The foreman on each jobsite will be responsible for identifying fall hazards on their jobsite. The foreman will evaluate each situation or work procedure where employees may be exposed to a fall of 6 feet or more. The foreman will be responsible for developing a plan to eliminate the exposures, if possible, or to select the appropriate fall protection systems and/or equipment.

Hazard Control:

Engineering Controls:

- Personal Fall Protection
- Guard Rail Systems
- Positioning Devices
- Warning Line Systems
- Floor Opening Covers

Administrative Controls:

- Controlled access zones
- Employee training

- Audits
- Inspections
- Supervision
- Signs

Fall Protection Required:

The following are examples of situations were fall protection would be needed. This listing is by no means complete, and there are many other situations where a fall of 6 feet or more is possible. It should be noted that ladders and scaffolding are not included in this list because they are covered by other OSHA standards and other requirements of our safety program.

Wall Openings:
Each employee working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet (1.8 meters) or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches (1.0 meter) above the walking/working surface must be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

Holes:
Personal fall arrest systems, covers, or guardrail systems shall be erected around holes (including skylights) that are more than 6 feet (1.8 meters) above lower levels.

Leading Edges:
Each employee who is constructing a leading edge 6 feet (1.8 meters) or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

Excavations:
Each employee at the edge of an excavation 6 feet (1.8 meters) or more deep shall be protected from falling by guardrail systems, fences, barricades, or covers. Where walkways are provided to permit employees to cross over excavations, guardrails are required on the walkway if it is 6 feet (1.8 meters) or more above the excavation.

Formwork and Reinforcing Steel:
For employees, while moving vertically and/or horizontally on the vertical face of rebar assemblies built in place, fall protection is not required when employees are moving. OSHA considers the multiple hand holds and foot holds on rebar assemblies as providing similar protection as that provided by a fixed ladder. Consequently, no fall protection is necessary while moving point to point for heights below 24 feet (7.3 meters). An employee must be provided with fall protection when climbing or otherwise moving at a height more than 24 feet (7.3 meters), the same as for fixed ladders.

Hoist Areas:
Each employee in a hoist area shall be protected from falling 6 feet (1.8 meters) or more by guardrail systems or personal fall arrest systems. If guardrail systems (or chain gate or guardrail) or portions thereof must be removed to facilitate hoisting operations, as during the landing of materials, and a worker must lean through the access opening or out over the edge of the access opening to receive or guide equipment and materials, that employee must be protected by a personal fall arrest system.

Overhand Bricklaying and Related Work:
Each employee performing overhand bricklaying and related work 6 feet (1.8 meters) or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems, or shall work in a controlled access zone. All employees
reaching more than 10 inches (25 cm) below the level of a walking/working surface on which they are working shall be protected by a guardrail system, safety net system, or personal fall arrest system.

Precast Concrete Erection and Residential Construction:
Each employee who is 6 feet (1.8 meters) or more above lower levels while erecting precast concrete members and related operations such as grouting of precast concrete members and each employee engaged in residential construction shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

Ramps, Runways, and Other Walkways:
Each employee using ramps, runways, and other walkways shall be protected from falling 6 feet (1.8 meters) or more by guardrail systems.

Low-slope Roofs:
Each employee engaged in roofing activities on low-slope roofs with unprotected sides and edges 6 feet (1.8 meters) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems or a combination of a warning line system and guardrail system, warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system. On roofs 50 feet (15.24 meters) or less in width, the use of a safety monitoring system without a warning line system is permitted.

Steep Roofs:
Each employee on a steep roof with unprotected sides and edges 6 feet (1.8 meters) or more above lower levels shall be protected by guardrail systems with toeboards, safety net systems, or personal fall arrest systems.

Controlled Access Zones:

A Controlled access zone is a work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems, guardrail, personal arrest or safety net to protect the employees working in the zone.

The employer shall provide for prompt rescue of employees in the event of a fall or shall assure the employees are able to rescue themselves.

Controlled access zones are used to keep out workers other than those authorized to enter work areas from which guardrails have been removed. Where there are no guardrails, masons are the only workers allowed in controlled access zones.

Controlled access zones, when created to limit entrance to areas where leading edge work and other operations are taking place, must be defined by a control line or by any other means that restrict
access. Control lines shall consist of ropes, wires, tapes or equivalent materials, and supporting stanchions, and each must be:

- Flagged or otherwise clearly marked at not more than 6-foot (1.8 meters) intervals with high-visibility material
- Rigged and supported in such a way that the lowest point (including sag) is not less than 39 inches (1 meter) from the walking/working surface and the highest point is not more than 45 inches (1.3 meters)--nor more than 50 inches (1.3 meters) when overhand bricklaying operations are being performed from the walking/working surface
- Strong enough to sustain stress of not less than 200 pounds (0.88 kilonewtons). Control lines shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge Control lines also must be connected on each side to a guardrail system or wall. When control lines are used, they shall be erected not less than 6 feet (1.8 meters) nor more than 25 feet (7.6 meters) from the unprotected or leading edge, except when precast concrete members are being erected. In the latter case, the control line is to be erected not less than 6 feet (1.8 meters) nor more than 60 feet (18 meters)
  or half the length of the member being erected, whichever is less, from the leading edge.

Controlled access zones when used to determine access to areas where overhand bricklaying and related work are taking place are to be defined by a control line erected not less than 10 feet (3 meters) nor more than 15 feet (4.6 meters) from the working edge. Additional control lines must be erected at each end to enclose the controlled access zone. Only employees engaged in overhand bricklaying or related work are permitted in the controlled access zones.

On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones will be enlarged as necessary to enclose all points of access, material handling areas, and storage areas.

On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to
accomplish that day's work shall be removed.

Fall Protection Systems:

When there is a potential fall of 6 feet or more, we will utilize one or more of the following means of providing protection:

Guardrail Systems:
Guardrail systems must meet the following criteria. Toprails and midrails of guardrail systems must be at least one-quarter inch (0.6 centimeters) nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for toprails, it must be flagged at not more 6 feet intervals (1.8 meters) with high-visibility material. Steel and plastic banding cannot be used as toprails or midrails. Manila, plastic, or synthetic rope used for toprails or midrails must be inspected as frequently as necessary to ensure strength and stability.

The top edge height of toprails or (equivalent) guardrails must be 42 inches (1.1 meters) plus or minus 3 inches (8 centimeters), above the walking/working level. When workers are using stilts, the top edge height of the top rail, or equivalent member, must be increased an amount equal to the height of the stilts.

Screens, midrails, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there are no walls or parapet walls at least 21 inches (53 centimeters) high. When midrails are used, they must be installed a to a height midway between the top edge of the guardrail system and the walking/working level.

When screens and mesh are used, they must extend from the top rail to the walking/working level and along the entire opening between top rail supports. Intermediate members, such as balusters, when used between posts, shall not be more than 19 inches (48 centimeters) apart.

Other structural members, such as additional midrails and architectural panels, shall be installed so that there are no openings in the guardrail system more than 19 inches (48 centimeters).

The guardrail system must be capable of withstanding a force of at least 200 pounds (890 newtons) applied within 2 inches of the top edge in any outward or downward direction. When the 200 pound (890 newtons) test is applied in a downward direction, the top edge of the guardrail must not deflect to a height less

than 39 inches (1 meter) above the walking/working level.

Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding a force of at least 150 pounds (667 newtons) applied in any downward or outward direction at any point along the midrail or other member.

Guardrail systems shall be surfaced to protect workers from punctures or lacerations and to prevent clothing from snagging.

The ends of top rails and midrails must not overhang terminal posts, except where such overhang does not constitute a projection hazard.

When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section must be placed across the access opening between guardrail sections when hoisting operations are not taking place.

At holes, guardrail systems must be set up on all unprotected sides or edges. When holes are used for the passage of materials, the hole shall have not more than two sides with removable guardrail sections. When the hole is not in use, it must be covered or provided with guardrails along all unprotected sides or edges.

If guardrail systems are used around holes that are used as access points (such as ladderways), gates must be used or the point of access must be offset to prevent accidental walking into the hole.

If guardrails are used at unprotected sides or edges of ramps and runways, they must be erected on each unprotected side or edge.

Personal Fall Arrest Systems:
These consist of an anchorage, connectors, and a body belt or body harness and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it must do the following:

- Limit maximum arresting force on an employee to 900 pounds (4 kilonewtons) when used with a body belt
- Limit maximum arresting force on an employee to 1,800 pounds (8 kilonewtons) when used with a body harness
- Be rigged so that an employee can neither free fall more than 6 feet (1.8 meters) nor contact any lower level
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07 meters)
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.8 meters) or the free fall distance permitted by the system, whichever is less.

The use of body belts for fall arrest is prohibited and a full body harness is required.

Personal fall arrest systems must be inspected prior to each use for wear damage, and other deterioration. Defective components must be removed from service.

Positioning Device Systems:
Body harness systems are to be set up so t hat a worker can free fall no farther than 2 feet (0.6 meters). They shall be secured to an anchorage capable of supporting a least twice the potential impact load of an employee's fall or 3,000 pounds (13.3 kilonewtons), whichever is greater.

Safety Monitoring Systems:
When no other alternative fall protection has been implemented, the employer shall implement a safety monitoring system. Employers must appoint a competent person to monitor the safety of workers and the employer shall ensure that the safety monitor:

- Is competent in the recognition of fall hazards
- Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices
- Is operating on the same walking/working surfaces of the workers and can see them
- Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.

Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.

No worker, other than one engaged in roofing work (on low-sloped roofs) or one covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

All workers in a controlled access zone shall be instructed to promptly comply with fall hazard warnings issued by safety monitors.

Warning Line Systems:
Warning line systems consist of ropes, wires, or chains, and supporting stanchions and are set up as follows:

- Flagged at not more than 6-foot (1.8 meters) intervals with high-visibility material
- Rigged and supported so that the lowest point including sag) is no less than 34 inches (0.9 meters) from the walking/working surface and

its highest point is no more than 39 inches (1 meter) from the walking/working surface

- Stanchions, after being rigged with warning lines, shall be capable of resisting, without tipping over, a force of at least 16 pounds 71 newtons) applied horizontally against the stanchion, 30 inches (0.8 meters) above the walking/working surface, perpendicular to the warning line and in the direction of the floor, roof, or platform edge
- The rope, wire, or chain shall have a minimum tensile strength of 500 pounds (2.22 kilonewtons) and after being attached to the stanchions, must support without breaking the load applied to the stanchions as prescribed above
- Shall be attached to each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in the adjacent section before the stanchion tips over.

Warning lines shall be erected around all sides of roof work areas. When mechanical equipment is being used, the warning line shall be erected not less than 6 feet (1.8 meters) from the roof edge parallel to the direction of mechanical equipment operation, and not less than 10 feet (3 meters) from the roof edge perpendicular to the direction of mechanical equipment operation.

When mechanical equipment is not being used, the warning line must be erected not less than 6 feet (1.8 meters) from the roof edge.

Covers:
Covers located in roadways and vehicular aisles must be able to support at least twice the maximum axle load of the largest vehicle to which the cover might be subjected. All other covers must be able to support at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time. To prevent accidental displacement resulting from wind, equipment, or workers. Activities, all covers must be secured. All covers shall be color coded or bear the markings "HOLE" or "COVER."

Protection from Falling Objects:
When guardrail systems are used to prevent materials from falling from one level to another, any openings must be small enough to prevent passage of potential falling objects. No materials or equipment except masonry and mortar shall be stored within 4 feet (1.2 meters) of working edges. Excess mortar, broken or scattered masonry units, and all other materials and debris shall be kept clear of the working area by removal at regular intervals.

During roofing work, materials and equipment shall not be stored within 6 feet (1.8 meters) of a roof edge unless guardrails are erected at the edge, and materials piled, grouped, or stacked near a roof edge must be stable and self-supporting.

Training:

Employees will be trained in the following areas:

(a) The nature of fall hazards in the work area

(b) The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems

(c) The use and operation of controlled access zones and guardrail, personal fall arrest, safety net, warning line, and safety monitoring systems

(d) The role of each employee in the safety monitoring system when the system is in use

(e) The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs

(f) The correct procedures for equipment and materials handling and storage and the erection of overhead protection

(g) Employees role in fall protection plans.

(h) Retraining shall be provided if one of the following occurs:

1.) Work place changes and there are needs to be addressed

2.) Fall protection systems and/or equipment changes that are currently in place are no longer prevalent or become obsolete

3.) Deficiencies in training or lack thereof

(i) All training for fall protection is documented and kept up to date by the Safety Director

(j) If an accident happens to occur, it will be fully investigated by the Supervisor and the Safety Director. After investigation is complete, it will then be recorded and addressed to see if additional training or a modification in the training is needed

(k) In the event of a fall, the proper authorities will be contacted immediately. If the accident is an obviously serious fall, call 911 and get in touch with your Supervisor immediately. This could truly be a life or death situation and time is crucial.

Don-Nan Pump & Supply
Fire Prevention Program

Purpose:

The Company Fire Safety Plan has been developed to work in conjunction with company emergency plans and other safety programs. This includes reviewing all new building construction and renovations to ensure compliance with applicable state, local, and national fire and life safety standards. Fire prevention measures reduce the incidence of fires by eliminating opportunities for ignition of flammable materials.

Responsibilities:

Management:

- Ensure all fire prevention methods are established and enforced
- Ensure fire suppression systems such as sprinklers and extinguishers are periodically inspected and maintained to a high degree of working order
- Train supervisors to use fire extinguishers for incipient fires
- Train employees on evacuation routes and procedures

Supervisors:

- Closely monitor the use of flammable materials and liquids
- Train assigned employees in the safe storage, use and handling of flammable materials
- Ensure flammable material storage areas are properly maintained

Employees:

- Use, store and transfer flammable materials in accordance with provided training
- Do not mix flammable materials
- Immediately report violations of the Fire Safety Program

Hazards:

Fire and explosion hazards can exist in almost any work area. Potential hazards include:

- Improper operation or maintenance of gas fired equipment
- Improper storage or use of flammable liquids
- Smoking in prohibited areas
- Accumulation of trash
- Unauthorized Hot Work operations

Hazard Control

Elimination of Ignition Sources:

All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters-these sources should be kept away from flammable liquids operations. Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Chemical sources of ignition such as D.C. motors, switched, and circuit breakers-these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks-these sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks-these sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

Removal of Incompatibles:

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

Control of Flammable Gases:

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases, other properties such as toxicity, reactivity, and corrosivity also must be taken into account. Also, a gas that is flammable could produce toxic combustion products.

Fire Extinguishers:

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

Classification of Fires and Selection of Extinguishers

Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

1) Class A fires involve materials such as wood, paper, and cloth which produce glowing embers or char.

2) Class B fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
3) Class C fires involve fires in live electrical equipment or in materials near electrically powered equipment.
4) Class D fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

Location and Marking of Extinguishers:

Extinguishers will be conspicuously located and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets will be used as extinguisher locations whenever possible.

Extinguishers will be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.

If extinguishers intended for different classes of fire are located together, they will be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate. Markings will be of a size and form to be legible from a distance of 3 feet.

Condition:

Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided.

Mounting and Distribution of Extinguishers:

Extinguishers will be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers having a gross weight not exceeding 40 pounds will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor.

Extinguishers mounted in cabinets or wall recesses or set on shelves will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal decor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. OSHA requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control

faster that Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they must be distributed on the basis of appropriate patterns for Class A and B hazards.

Inspection and Maintenance:

Once an extinguisher is selected, purchased, and installed, it is the responsibility of the Safety Officer to oversee the inspection, maintenance, and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged.

Fire Safety Inspections & Housekeeping:

First line supervisors and Safety Committees are responsible for conducting work site surveys that include observations of compliance with the Fire Safety Program. These surveys should include observations of worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

Emergency Exits:

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked.

Any doorway or passageway which is not an exit or access to an exit but which may be mistaken for an exit will be identified by a sign reading "Not An Exit" or a sign indicating it actual use (i.e., "Storeroom"). Exits and accesses to exits will be marked by a readily visible sign. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source providing not less than 5 foot-candles on the illuminated surface.

Emergency Plan for Persons with Disabilities:

The first line supervisor is assigned the responsibility to assist Persons with Disabilities (PWD) under their supervision. An alternate assistant will be chosen by the supervisor. The role of the two assistants is to report to their assigned person, and to either assist in evacuation or assure that the PWD is removed from danger.

- Supervisors, alternates, and the person with a disability will be trained on available escape routes and methods.
- A list of persons with disabilities is kept in the Main Office.
- Visitors who have disabilities will be assisted in a manner similar to that of company employees. The Host of the person with disabilities will assist in their evacuation.

Emergencies Involving Fire

Fire Alarms:

In the event of a fire emergency, a fire alarm will sound for the building.

Evacuation Routes and Plans:

Each facility shall have an emergency evacuation plan. All emergency exits shall conform to NFPA standards.

Should evacuation be necessary, go to the nearest exit or stairway and proceed to an area of refuge outside the building. Most stairways are fire resistant and present barriers to smoke if the doors are kept closed.

Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

Emergency Coordinators/Supervisors:

Emergency Coordinators/Supervisors will be responsible for verifying personnel have evacuated from their assigned areas.

Fire Emergency Procedures:

If you discover a fire

18. Activate the nearest fire alarm.
19. Notify your Supervisor and other occupants.

Fight the fire ONLY if:

1. The fire department has been notified of the fire, AND
2. The fire is small and confined to its area of origin, AND
3. You have a way out and can fight the fire with your back to the exit, AND
4. You have the proper extinguisher, in good working order, AND know how to use it.
5. If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, leave the area.

If you hear a fire alarm:

1. Evacuate the area. Close windows, turn off gas jets, and close doors as you leave.
2. Leave the building and move away from exits and out of the way of emergency operations.
3. Assemble in a designated area.
4. Report to the monitor so he/she can determine that all personnel have evacuated your area.
5. Remain outside until competent authority states that it is safe to re-enter.

Evacuation Routes:

1. Learn at least two escape routes, and emergency exits from your area.
2. Never use an elevator as part of your escape route.
3. Learn to activate a fire alarm.

4. Learn to recognize alarm sounds.
5. Take an active part in fire evacuation drills

Don-Nan Pump & Supply
Medical Management & First Aid

General:

Occupational health concerns receive high priority. It is essential that each location be able to adequately respond to first-aid events and resolve all other occupational health problems quickly. The health and wellness of each employee is a key segment of the overall safety environment.

OSHA Requirements:

OSHA requirements for medical services and first aid are found in Standard Number 1910.151 and are listed below:

- Ensure the ready availability of medical personnel for advice and consultation on matters of plant health.

- In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid.

- Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

Responsibilities

Management:

- Ensure there is a sufficient number of qualified first-aid providers
- Provide first aid training for all supervisors
- Offer first aid training for all employees

Safety Manager:

- Ensure first-aid and health programs are adequate
- Maintain all required records
- Ensure First-Aid supplies are always well stocked
- Conduct First Aid Training
- Administration of all medical management programs
- Administration of the Return to Work Program
- Maintain Employee Health/Medical Files
- Provide all necessary services in a courteous and professional manner
- Conduct Physical screenings

- Maintain all clinic areas clean, neat, and well stocked.
- Follow accepted medical practices and procedures.
- Adhere to all standards of the Bloodborne Pathogen Program

Records

Treatment Records - are permanent records and will be filled out for any of the following:

- All visits to the processing plant First-Aid Station w/ exception of visits for minor cuts, comfort care, etc.
- All accidents that result in any injury
- All Occupational Illnesses
- Prior to referral to any medical provider

Medical Appointment Log - will be filled in when any appointment for medical treatment, evaluation, or other medical service is made for an employee.

Modified Duty Assignment - forms shall be completed by Consulting Physician for any employee who has a condition that prevents them from conducting their normal duties. This form shall be used to notify management of the limitations of the employee. Management will assign tasks consistent with any limitations. Questions concerning the limitations are to be directed to Consulting Physician. Human Resources shall maintain a file for original forms. Copies shall be provided to the employee, the employee's Supervisor and Manager.

Confidentiality - records of all first-aid and medical events shall be kept in each individual's medical file. All medical record information is confidential and shall not be released to third parties without written authorization by the employee involved or as authorized by law.

First Aid Kits:

Well stocked First-Aid kit(s) for employee use will be maintained.

- The basic inventory of each first aid kit must be approved by the company consulting physician. This approval shall be initiated and record maintained by Safety Coordinator.

    - These kits will be located so as to allow easy and quick access. First-aid kits and required contents are to be maintained in a serviceable condition.

    - All items which must be kept sterile must be individually wrapped and sealed. Items such as scissors, tweezers, tubes of ointments with caps, or rolls of adhesive tape, need not be individually wrapped, sealed, or disposed of after a single use or application.

Post-Accident Substance Abuse Evaluations:

For all accidents that result in injuries or property damage or that requires off-site medical attention and/or evaluation, a DOT Drug and Alcohol screening will be conducted in accordance with procedures provided by the Texas State Worker's Compensation Program. This screening is part of the company Drug Free Workplace Program.

Minor Care:

Comfort providing systems such as wraps, balms, hot-wax and other non-invasive, non-medicative procedures may be employed to provide comfort to the employee experiencing minor work related physiological stresses.

Medical Referrals:

Safety Coordinator will arrange for employees to see appropriate medical care providers for other than minor work related complaints. A Medical Referral and Work Release Form shall be filled in by Consulting Physician all medical referrals. This record shall accompany the employee to the care provider and be returned for use in determining the need for any modified duty.

Modified Duty:

When an employee has been identified by proper medical authority as having a condition that would limit them in their normal job function, Human Resources shall initiate a Modified Duty Assignment Sheet. This sheet will list the limitations and advise management of the need for assignment to duties that will not exceed the limitations. Management will assign limited duties in writing on the Modified Duty Assignment Sheet. The original shall remain in a Pending & Review file, held by Human Resources, to prompt periodic monitoring of the employees condition. Copies shall be provided to the employee, the employee's supervisor and manager.

Return to Duty:

When conditions have changed, such that the Employee no longer has limitations, Safety Manager shall initiate Return To Duty actions by filling out the reverse side of the Modified Duty Assignment sheet. Consulting Physician shall consult with the employee's manager to provide guidance for any appropriate reconditioning program based on the Employee's normal job functions. Examples of elements that would be considered are normal job functions, length of time away from normal job, type of limitation, etc. If the limitation was caused by physiological stress factors, Consulting Physician will provided the employee

information to be used to minimize the chance of reoccurrence of the same or similar stress limitation. The original form shall be filed in the employee's medical record and copies provided to the employee, supervisor and manager.

Don-Nan Pump & Supply
Tool Safety Program

Purpose:

Use of tools makes many tasks easier. However, the same tools that assist us, if improperly used or maintained, can create significant hazards in our work areas. Employees who use tools must be properly trained to use, adjust, store and maintain tools properly. This programs covers hand, electrical, pneumatic, powder driven, and hydraulic tool safety.

Responsibility

Management:

* Provide correct tools for assigned tasks
* Ensure tools are maintained and stored safely
* Provide employee training
* Provide for equipment repair

Employees:

* Follow proper tool safety guidelines
* Report tool deficiencies and malfunctions
* Properly store tools when work is completed

Hazard Control

Engineering:

* Properly designed tools
* Guards & safety devices

Administrative:

* Tool sharpening program
* Use of PPE
* Control of tool issue
* Employee Training
* Controlled access to equipment and tool areas

General Safety Precautions:

Employees who use hand and power tools and who are exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases must be provided with the particular personal equipment necessary to protect them from the hazard.

All hazards involved in the use of tools can be prevented by following five basic safety rules:

* Keep all tools in good condition with regular maintenance.
* Use the right tool for the job.
* Examine each tool for damage before use.
* Operate according to the manufacturer's instructions.
* Provide and use the proper protective equipment.

Hand Tools;

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.

Some examples:

* Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or other employees.
* If a wooden handle on a tool such as a hammer or an axe is loose, splintered, or cracked, the head of the tool may fly off and strike the user or another worker.
* A wrench must not be used if its jaws are sprung, because it might slip.
* Impact tools such as chisels, wedges, or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

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Appropriate personal protective equipment, e.g., safety goggles, gloves, etc., should be worn due to hazards that may be encountered while using portable power tools and hand tools.

Floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum, or wood will provide for safety.

Power Tool Precautions:

Power tools can be hazardous when improperly used. There are several types of power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

The following general precautions should be observed by power tool users:

* Never carry a tool by the cord or hose
* Never yank the cord or the hose to disconnect it from the receptacle
* Keep cords and hoses away from heat, oil, and sharp edges
* Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters
* All observers should be kept at a safe distance away from the work area
* Secure work with clamps or a vise, freeing both hands to operate the tool

* Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool
* Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories
* Be sure to keep good footing and maintain good balance
* The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts
* All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use"

Guards:

Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

Guards, as necessary, should be provided to protect the operator and others from the following:

* point of operation
* in-running nip points
* rotating parts
* flying chips and sparks

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

Safety Switches:

The following hand-held powered tools are to be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

The following hand-held powered tools may be equipped with only a positive "on-off" control switch: platen sanders, disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks ¼-inch wide or less.

Other hand-held powered tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released.

Electrical Safety:

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in severe injury and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must either have a three-wire cord with ground or be grounded, be double insulated, or be powered by a low-voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

Double insulation is more convenient. The user and the tools are protected in two ways: by normal insulation on the wires inside, and by a housing that cannot conduct electricity to the operator in the event of a malfunction.

Electric Power Tool General Safety Practices:

* Electric tools should be operated within their design limitations.
* Gloves and safety footwear are recommended during use of electric tools.
* When not in use, tools should be stored in a dry place.
* Electric tools should not be used in damp or wet locations.
* Work areas should be well lighted.

Powered Abrasive Wheel Tools:

Powered abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and sound- or ring-tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring."

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

Powered Grinder Safety Precautions:

* Always use eye protection.
* Turn off the power when not in use.

* Never clamp a hand-held grinder in a vise.

Pneumatic Tools:

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool. Eye protection is required and face protection is recommended for employees working with pneumatic tools. Working with noisy tools such as jackhammers requires proper, effective use of hearing protection.

When using pneumatic tools, employees are to check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.

A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel.

Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.

Powder-Actuated Tools:

Powder-actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that they must be operated only by specially trained employees.

Powder-Actuated Tool Safety:

* These tools should not be used in an explosive or flammable atmosphere.
* Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
* The tool should never be pointed at anybody.
* The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.
* Hands should be kept clear of the barrel end. To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the employee should wait at least 30 seconds, then try firing it again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, than carefully remove the load. The bad cartridge should be put in water.

Suitable eye and face protection are essential when using a powder-actuated tool.

The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device.

All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.

If the tool develops a defect during use it should be tagged and taken out of service immediately until it is properly repaired.

Powder-Actuated Tool Fasteners:

When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel, the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter, or make the fastener ricochet.

Hydraulic Power Tools:

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

Jacks:

All jacks - lever and ratchet jacks, screw jacks, and hydraulic jacks - must have a device that stops them from jacking up too high. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and should not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up.

Use wooden blocking under the base if necessary to make the jack level and secure. If the lift surface is metal, place a 1-inch-thick hardwood block or equivalent between it and the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

* the base rests on a firm level surface
* the jack is correctly centered
* the jack head bears against a level surface
* the lift force is applied evenly

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use and lubricated regularly. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

Hydraulic jacks exposed to freezing temperatures must be filled with adequate antifreeze liquid.

Don-Nan Pump & Supply
Hazard Communication Program (HAZCOM)

General Information:

In order to comply with 29 OFR 1926.59, Hazard Communication, and the following written Hazard Communication Program has been established by Don-Nan Pump & Supply**.** All work units of the company are included within this program. The Safety Coordinator is responsible for the implementation and ongoing compliance with the program.

Employee Training and Information:

The Job Superintendent is responsible for the employee training program. He will ensure that all elements specified below are carried out.

Prior to starting work each new employee of Don-Nan Pump & Supply will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard.
- Chemicals present in their workplace operations
- Location and availability of our written hazard communication program,
- Physical and health effects of the hazardous chemicals.
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area.
- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment.
- Steps Don-Nan Pump & Supply has taken to lessen or prevent exposure to these chemicals.
- Emergency procedures to follow if they are exposed to these chemicals.
- How to read labels and review MSDS's to obtain appropriate hazard information.

After attending appropriate training, each employee will sign a form to verify that they received and understood the training, procedures and policies within Don-Nan Pump & Supply hazard Communication Program

Prior to a new chemical hazard being introduced into any section of this company, each employee of that section will be given information as outlined above. The Safety Coordinator or the Job Superintendent is responsible for ensuring that MSDS on the new chemicals are available.

Written Hazard Communication Program

It is the policy of the Don-Nan Pump & Supply, that the first consideration in the performance of work shall be the protection of the safety and health of all employees. The company has developed this Hazard Communication Program to ensure that all employees receive adequate information relevant to the possible hazards that may be involved with the various hazardous substances used in the company's operations and processes. The following program outlines how we will accomplish this objective.

Scope:

This policy covers all potential workplace exposures involving hazardous substances as defined by federal, state and local regulations.

Hazard Determination:

The company does not intend to evaluate any of the hazardous substances purchased from suppliers and/or manufacturers but have chosen to rely upon the evaluation performed by the suppliers or by the manufacturers of the substances to satisfy the requirements for hazard determination.

Container Labeling:

No container or hazardous substances will be released for use unless the container is correctly labeled and the label is legible.
All chemicals in bags, drums, barrels, bottles, boxes, cans, cylinders, reaction vessels, storage tanks, or the like will be checked by the receiving department to ensure the manufacturer's label is intact, is legible, and has not been damaged in any manner during shipment. Any containers found to have damaged labels will be quarantined until a new label has been installed.
The label must contain the chemical name of the contents, the appropriate hazard warnings, and the name and address of the manufacturer, and any other information required.
All secondary containers shall be labeled. The information must include details of all chemicals that are in the referenced container.

Material Safety Data Sheets:

Each location must maintain a master MSDS file as well as a department-specific file. These Material Safety Data Sheets are available to all employees, at all times, upon request.
The Safety Committee or a designee will be responsible for reviewing all incoming MSDSs for new and significant health/safety information (the company will ensure that any new information is passed on to the employees involved).
The Safety Coordinator or designee will review all incoming MSDSs for completeness. If any MSDS is missing or obviously incomplete, a new MSDS will be requested from the manufacturer or distributor. OSHA is to be notified if the manufacturer or distributor will not supply the MSDS or if it is not received after 30 days from request. Any new information will be passed on to employees involved.

New materials will not be introduced into the work area until an MSDS has been received.
The purchasing department will make it an ongoing part of its function to obtain MSDSs for all new materials when they are first ordered.
The safety coordinator or his or her designee shall coordinate with appropriate departments to make sure all MSDSs are obtained, distributed and communicated.

List of Hazardous Substances:

Each company should compile, annually review, and update as necessary a complete inventory of all substances present in that facility. The name of those materials determined to be hazardous are defined in applicable federal and state standards.

Employee Information and Training:

All employees will attend an orientation meeting for information and training on the following items prior to starting work with hazardous substances; (Training checklist is to be completed and kept on file.) An overview of the requirements of the Hazard Communication Standard, including their rights under this regulation. Information on where hazardous substances are present in their work areas. Information regarding the use of hazardous sub- stances in their specific work areas. The location and availability of the written hazard communication program. A copy of the program will be given to all employees during the orientation meeting. Subsequent to this, the program will be available from managers and also from the office. The physical and health aspects of the substances in use. Methods and observation techniques used to determine the presence or release of hazardous substances in the work area. The controls, work practices and personal protective equipment that are available for protection against possible exposure. Emergency and first aid procedures to follow if employees are exposed to hazardous substances. How to read labels and material safety data sheets to obtain the appropriate hazard information. Refresher training shall be conducted annually.

It is most important that all of our employees understand the information given in the orientation meetings. Questions regarding this information should be directed to the Safety Coordinator.

When new substances are introduced into the workplace the department manager will review the above items with you as they are related to the new materials. The department manager will relay all the above information to new employees who will be working with hazardous substances, prior to their starting work. An Acknowledgment Statement is to be completed by each employee receiving this information and training. These are to be kept on file in the human resources department.

Non-routine Tasks:

Infrequently, employees may be required to perform non-routine tasks that involve the use of hazardous substances. Prior to starting work on such projects, each involved employee will be given information by his or her supervisor about hazards to which they may be exposed during such an activity. This information will include:

- The specific hazards
- Protective/safety measures that must be utilized

The measures the company has taken to lessen the hazards, including special ventilation, respirators, and the presence of another employee, air sample readings, and emergency procedures.

Plan Administration:

This Hazard Communication program will be monitored by the Safety Coordinator.
Questions regarding this program should be directed to the Safety Coordinator.
Signature _____
Title _____
Date _____
This document must be approved and signed by the senior executive on site.

MSDS Information

OSHA rules outline the content, but not the exact form, of every Material Safety Data Sheet. Here is what OSHA requires each data sheet to contain:

- Identity - The data sheet must contain the name of the chemicals found on the label. In addition, subject to deletion of legitimate trade secrets, it must give the chemical and common name of the substance. If the substance is a mixture and has not been tested as such, the data sheet must give the name of each hazardous constituent.
- Characteristic - The data sheet must recite the physical and chemical characteristics of the chemical, such as vapor pressure, flash point, etc.
- Physical Hazards - Any potential for fire, explosion or reaction must be included in the data sheet.
- Health Hazards - Signs and symptoms of exposure must be entered, as must all medical conditions that are likely to be aggravated by exposure.
- Routes of Entry - The data sheet must specify whether the chemical typically enters the system by ingestion, inhalation, dermal exposure or some other route.
- Exposure Limits - If OSHA has established an exposure limit for the chemical, or if a Threshold Limit Value has been established by the American Conference of Governmental Industrial Hygienists, these must be entered on the data sheet, as must any exposure limit used by the authority preparing the data sheet.
- Carcinogens - The data sheet must indicate whether the chemical is listed as a carcinogen by the National Toxicology Program, by OSHA, or by the International Agency for Research in Cancer.
- Use and Handling - The data sheet must recite any general applicable precautions for safe handling and use that are known to the firm preparing the data sheet, including hygiene practices, protective measures during repair and maintenance of contaminated equipment and procedures for clean-up of spills and leaks. Industrial chemical consumers often might add site-specific procedures to the more general information offered by the chemical manufacturer.
- Exposure Controls - The data sheet must include a description of special procedures to be employed in emergencies, as well as a description of appropriate first aid.
- Dates - The sheet must bear the date of its preparation or of its latest revision.
- Information Source - Finally, the sheet must recite the name, address and telephone number of the person who prepared the data sheet or of some other person who can provide additional information relating to the chemical, such as citations to scientific literature or specialized emergency procedures.

MANAGER TRAINING OF EMPLOYEE CHECKLIST

Has the employee been informed of and trained in the following:

		YES	NO
1.	Information: Has the employee been informed of the following?		
	The requirements of this section.	_____	_____
	Any operation in the work area where hazardous substances are present.	_____	_____
	The location of the written Hazard Communication Program.	_____	_____
	Availability of the written program.	_____	_____
	Location and availability of hazardous substances list(s).	_____	_____
	Location and availability of Material Safety Data Sheets.	_____	_____
2.	Training: Has the employee been trained in the following?		
	Methods and observations that may be used to detect the presence or release of hazardous substances in the work areas.	_____	_____
	The physical and health hazards of the substances in the work areas.	_____	_____
	How employees can protect themselves from these hazards.	_____	_____
	Procedures the employer has implemented for employee protection.	_____	_____
	Appropriate work practices.	_____	_____
	Emergency procedures.	_____	_____
	Personal protective equipment to be used.	_____	_____
	Explanation of labeling systems.	_____	_____
	Explanation of material safety data sheets.	_____	_____
	How employees can obtain and use appropriate hazard information.	_____	_____
	Personal hygiene when working with substances.	_____	_____
	General first aid for contact with hazardous substances.	_____	_____

_____ _____

Employee Signature, Date Manager's Signature, Date

REQUEST FOR MATERIAL SAFETY DATA SHEETS

Date of Request _____
Department _____
To _____
From _____

_____

I hereby request that I be given the Material Safety Data Sheets on the following hazardous substance(s):

_____

_____

_____

Date Received _____
Acknowledge _____ (Requesting Employee)
Department
Manager _____
Date _____
cc: Corporate Safety Department

PROGRAM/TRAINING DOCUMENT

TRAINING ACKNOWLEDGMENT

I have received information on the Hazard Communication Standard 29 CFR 1910.1200 or the appropriate state standard and understand how to interpret and to use the labeling systems and Material Safety Data Sheets (MSDSs) that are in use and accessible to me in my work area. I agree to observe and follow the safe work practices as presented to me in the training sessions I attended on _____at____

_____ _____

Employee Signature Date

The above named employee has been informed and instructed by _____ work practices, chemical hazards recognition, interpretation and use of chemical labels, MSDSs, the CFR 29, 1910.1200 (e) or appropriate state standard and the location at which these items are accessible to the employee.

_____ _____

Supervisor Date

Explanation of terms used on Material Safety Data Sheets

Section 1:
Chemical Name and Synonyms - The product identification. The chemical or generic name of single elements and compounds.
Trade Names and Synonyms - The name under which the product is marketed and the common commercial name of the product.
Chemical Family - Refers to a grouping of chemicals that behave and react with other chemicals in a similar manner.
Formula - The chemical formula or single elements or compounds.
CAS Number - The Chemical Abstracts Service number, if applicable.
EPA - The code number assigned by the Environmental Protection Agency, if applicable.
DOT Classification - The appropriate classification as determined by the regulations of the Office of Hazard Material, Department of Transportation.

Section II:
Hazardous Ingredients - The major components as well as any minor one(s) having potential for harm that are considered when evaluating the product.
TLV - Threshold Limit Value (TLV) indicates the permissible exposure concentration, a limit established by a government regulatory agency, or an estimate if none has been established.

Section III:
Physical Data
Boiling Point (°F) - The temperature in degrees fahrenheit at which the substances will boil.
Vapor Pressure - The pressure of saturated vapor above the liquid expressed in mm Hg at 20°C.
Vapor Density - The relative density or weight of a vapor or gas (with no air present) compared with an equal volume of air at ambient temperature.
Solubility in Water - The solubility of a material by weight in water at room temperature. The terms negligible, less than 0.1 percent, 0.1 to 1 percent; moderate 1 to 10 percent, applicable 10 percent or greater.
Appearance and Odor - The general characterization of the material, i.e., powder, colorless liquid, aromatic odor, etc.
Specific Gravity (H_2O=1) - The ratio of the weight of a volume of the material to its weight of an equal volume of water.
Percent, Volatile by Volume (%) - The percent by volume of the material that is considered volatile. (The tendency or ability of a liquid to vaporize.)
Evaporation Rate - The ratios of the time required to evaporate a measured volume of a liquid to the time required to evaporate the same volume of a reference liquid (ethyl ether) under ideal test conditions. The higher the ratio, the slower the evaporation rate.

Section IV:
Flash Point (Method Used) - The temperature in degrees Fahrenheit at which a liquid will give off enough flammable vapor to ignite in the presence of a source of ignition.

Section V:
Conditions to Avoid - Conditions that, if they exist with the substance present, could cause it to become unstable.
Incompatibility (Materials to Avoid) - Materials that will react with the substance.
Hazardous Decomposition Products - Refers to that reaction that takes place at a rate that releases large amounts of energy. Indicates whether or not it may occur and under what storage conditions.

Section VI:
Health Hazard Data - Possible health hazards as derived from human observation, animal studies or from the results of studies with similar products.
Threshold Limit Value (TLV) - The value for airborne toxic material that are to be used as guides in the control of health hazards and represent concentrations to which nearly all workers may be exposed eight hours per day over extended periods of time without adverse effects.
Effects of Overexposure - The effects on or to an individual who has been exposed beyond the specified limits.
Emergency and First-Aid Procedures - Gives first-aid and emergency procedures in case of eye and/or skin contact, ingestion and inhalation.

Section VII:
Stability - Whether the substance is stable or unstable, an unstable substance is one that will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shock, pressure, or temperature.
A copy of the form you may want to use to list your hazardous substances by work area follows this page. This information would be based on the initial survey and subsequent hazard determination.

Section VIII:
Spill or Leak Procedures - Steps to be taken if material is released or spilled. Method and materials to use to clean up or contain.
Waste Disposal Method - Method and type of disposal site to use.

Section IX:
Special Protection Information
Respiratory Protection - Specific type should be specified, i.e., dust mask, NIOSH-approved cartridge respirator with organic-vapor cartridge.
Ventilation - Type of ventilation recommended, i.e., local exhaust, mechanical, etc.
Protective Gloves - Refers to the glove that should be worn when handling the product, i.e., cotton, rubber.
Eye Protection - Refers to the type of eye protection that is to be worn when handling or around the product.
Flammable Limits - The range of gas or vapor concentration (percent by volume in air) that will burn or explode if an ignition source is present. (Lel) means the lower explosive limits and (Uel) the upper explosive limits given in percent.
Extinguishing Media - Specifies the fire-fighting agent(s) that should be used to extinguish fires.

Special Fire-Fighting Procedures/Unusual Fire and Explosion Hazards - Refer to special procedures required if unusual fire or explosion hazards are involved.

Work Area Hazardous Substance List

Work Area: _____

Chemical Identity Label/Special Information	CAS # or Serial #	Vendor

Don-Nan Pump & Supply
Hydrogen Sulfide (H2S) Exposure Control

Purpose:

The purpose of this program is to reduce employee hydrogen sulfide (H2S) exposure to below the Permissible Exposure Limits by means of engineering and work practice controls at Don-Nan Pump & Supply**.** This program meets the requirements of OSHA Standard 29CFR 1910.1000 Table Z-2.

Definitions:

Acceptable ceiling concentration – Airborne concentration that should not be exceeded at anytime during an 8-hour shift.

Acceptable maximum peak concentration – The maximum airborne concentration allowed over a short time period if there is no other measurable exposure over any 8-hour shift.

Container – Any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

Emergency – Any occurrence such as equipment failure, rupture of containers, or failure of control equipment that may or does result in an unexpected significant release of hydrogen sulfide.

Employee exposure – Exposure to airborne hydrogen sulfide that would occur if the employee were not using respiratory protective equipment.

Permissible Exposure Limit (PEL) – The OSHA limit for exposure to airborne hazards. For benzene the limits are 10ppm TWA, 15ppm STEL 20ppm acceptable ceiling and 50ppm acceptable maximum peak above ceiling once for 10 min if no other exposure occurs.

Route of exposure – The route by which air contaminants enter the body. Exposure routes include inhalation, ingestion, or skin absorption.

Short Term Exposure Limit (STEL) – Airborne concentration measured of any 15 minute time period.

Time- weighted Average (TWA) – Airborne concentration average over an 8-hour period.

Responsibilities:

The Program Administrator will:

- Issue and implement this program and ensure that it meets applicable requirements

- Provide Hazard Communication Training for H2S
- Implement engineering and work practice controls to prevent exposure to H2S
- Provide appropriate personal protective equipment for exposed employees
- Maintain exposure monitoring records according to the recordkeeping section of this program

Managers and Supervisors will:

- Know and understand the hazards of H2S exposure
- Comply with engineering and work practice controls to prevent exposure to H2S
- Ensure the availability and use of appropriate personal protective equipment for exposed employees

Employees will:

- Comply with all aspects of this H2S exposure control program
- Use engineering and work practice controls to prevent exposure to H2S
- Use personal protective equipment as necessary to prevent H2S exposure

Program Activities

Hazard Recognition

Don-Nan Pump & Supply works to ensure that employees are not exposed to H2S above OSHA exposure limits at any time.

Hydrogen sulfide, or H2S, is colorless, flammable gas that has a distinctive "rotten egg" odor. It is also referred to as hydrogen sulfide, sulfur hydride, sewer gas and stink damp. The physical characteristics of H2S gas are below:

H2S Characteristic

Color	Colorless
Odor	"Rotten eggs" (detectable @ 10ppb)
Toxicity	Highly toxic
Flammability	Flammable
Solubility	0.4%
Incompatibilities	Strong oxidizers, strong nitric acid, metals

H2S is produced naturally by decaying organic matter, released from liquid manure and natural gas, a byproduct of industrial processes including petroleum refining, mining, tanning, wood pulp processing, and used to produce elemental sulfur, sulfuric acid, heavy water for nuclear reactors. H2S exposure could occur as a result of the following processes:

- Drilling operations
  - Recycling drilling mud

  - Contact with water from crude wells
  - Blowouts
- Tank Gauging
- Routine maintenance at refining operations

Exposure to H2S above published limits can result in adverse heath effects including:

- Eye irritation
- Lung effects
- Central Nervous System effects on parts of the brain that controls breathing
- Shock, convulsions and death at high exposures

Symptoms of H2S exposure include:

- Eye irritation
- Nose and throat irritation
- Headache, dizziness
- Nausea
- Cough, breathing difficulty

Hazard Evaluation:

- Monitoring
  - Monitoring for airborne concentrations of H2S at Don-Nan Pump & Supply work sites is conducted using four-gas meter
- Area four-gas monitors will be set to alarm when airborne H2S concentrations exceed the OSHA STEL limit of 10ppm

Hazard Control:

- Don-Nan Pump & Supply employees will not work in areas with airborne concentrations above OSHA Permissible Exposure Limits.
- If circumstances require an exception to the above, NIOSH approved self contained breathing apparatus or air-supplied respirators will be used.
- Controls include but are not limited to dilution ventilation, forced air ventilation and use of NIOSH approved respiratory protection (SCBA and air supplied only).
- Other safety precautions include:
  - Whenever the four-gas monitor alarms leave area immediately to fresh air area and do not reenter until conditions are proven safe or appropriate respiratory protection is donned.
  - Upon commencing operations at a work site obtain, know and understand the facility contingency plan.

Training:

- Don-Nan Pump & Supply employees will be trained in the hazards and safe control of H2S exposure using the training materials included in this program
- Training is documented according to the recordkeeping section of this program as well as the recordkeeping sections of the HazCom Program

Recordkeeping:

- Training records included in this program are retained with and according to the requirements of the HazCom Program
- H2S monitoring results are documented and retained

Don-Nan Pump & Supply
Incident Investigation & Reporting

Procedure:
Begin by asking the employee and any witnesses for their version of the events. Trained investigators should insure that the statements are true and unbiased. In addition, inspect the location of the accident as soon as possible. Initial identification of evidence includes making a list of people involved, equipment, environmental factors (weather, lighting, temperature, ventilation, noise level, etc…).

- Determine whether or not the accident is a "reportable" incident in accordance with OSHA regulations.
- Ask questions. What caused the employee to fall? Wet floors? Poor footwear? Obstructions in the walkway? Carelessness?
- After determining the broad cause, continue to break it down until the basic issue is determined.

    - Why was the floor wet? An employee was mopping a spill
    - Did the employer alert others of the wet floor with the appropriate safety placards? No.
    - Why not? The employee didn't know where the placards were.
    - Are they ready available? Yes.

- Once the floor has been identified, determine what needs to be done to prevent further accidents. Should retraining take place? Should a new policy be implemented? Did faulty equipment contribute to the incident?
- Determine corrective action, if any, should be taken if the event is due to employee negligence. Establish a retraining session for all parties involved.
- Follow up. Implement new procedures and follow up with all personnel involved in the incident. Ensure that new policies are being followed and rules are being enforced.
- Encourage all employees to report unsafe working conditions and violations of company safety procedures immediately.
- All evidence gathered within the scope of an accident investigation shall be secured in the accident file and retained for future review.

Incident Reports:

An incident report should be filled out for each accident. This report should include a complete description of the event, names of all parties involved (including those investigating the accident), and recommendations to prevent further accidents of the same type.

Ultimately, employees are the first line of defense in preventing accidents. Each employee has the right to speak freely and without retaliation to their supervisor or the Safety Coordinator when they feel safety has been compromised. Each issue, even without an accident, will be addressed, investigated and reconciled.

Don-Nan Pump & Supply
Ladder Safety Program

Purpose:
The purpose of this safety policy and procedure is to establish guidelines for the safe use of ladders throughout Don-Nan Pump & Supply by employees, contractors and visitors.

Ladders are used when employees need to move up or down between two different levels. Slips, trips, and falls are significant contributors to Don-Nan Pump & Supply accidents.
Slips, trips, and falls can occur when wrong ladder selection is made and when improper climbing techniques and/or defective ladders are used.

At Don-Nan Pump & Supply, the appropriate ladder will be used for the corresponding job and defective ladders will not be used. When hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding ladders will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

Reference:
This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.25-27) and Occupational Safety and Health Standards for the Construction Industry (29 CFR 1926.1053).

Responsibilities

Managers/Unit Heads:
Managers/Unit Heads are responsible for ensuring that adequate funds are available and budgeted for the purchase of ladders in their areas. Managers/Unit Heads will obtain and coordinate the required training for the affected employees. Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

Supervisors:
Supervisors are responsible for ensuring that all ladders (fixed and portable) are regularly inspected and properly maintained. They will also be responsible for tagging ladders in need of repair and removing defected ladders from service for repair or destruction.
Supervisors will audit for compliance with this safety policy and procedure during their facility and jobsite audits.

Employees:
Employees shall comply with all applicable guidelines contained in this safety policy and procedure. Employees are also responsible for reporting immediately suspected unsafe conditions or ladders to their supervisor. Employees are to inspect ladders before using and are to keep ladders clean and in good condition.

Safety and Loss Control:

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors or others as applicable on any matter concerning this safety policy and procedure. Additionally, Safety and Loss Control will assist in developing or securing of required training. Safety Engineers will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure. Safety and Loss Control will also work with Purchasing Department to ensure that all newly purchased ladders comply with this safety policy and procedure and current safety regulations.

Training:
Employees using the ladders shall be trained in:
• The proper use of the ladders
• What kind of ladder to use
• How to set up ladders
• Ladder inspection
• Proper maintenance

This training shall be done upon initial employment and/or job assignment. Refresher training shall be provided to employees at the discretion of their supervisor.

Ladder Hazards & Safe Use

Ladder Hazards:
There are inherent hazards associated with ladder use. Typical ladder hazards include:
• Insufficient surface resistance on ladder rungs and steps
• Ladder structural failure
• Ladders tipping sideways, backwards, or slipping out at the bottom
• Ladder spreaders not fully opened and locked, causing the ladder to "walk", twist or close up when a load is applied to the ladder
• Using metal ladders around electricity
• Using deteriorated ladders
• Using fixed ladders without cages or fall protection

Safe Ladder Use:
Employees should follow certain rules when placing, ascending, and descending ladders which include:
• Hold on with both hands when going up or down. If material must be handled, raise or lower it with a rope either before going down or after climbing to the desired level.
• Always face the ladder when ascending or descending.
• Never slide down a ladder.
• Be sure shoes are not greasy, muddy, or slippery before climbing.
• Do not climb higher than the third rung from the top on straight or extension ladder, or the second tread from the top on stepladders.
• Carry tools on a tool belt not in the hand.
• Never lean too far to the sides. Keep your belt buckle within the side rails.

• Use a 4 to 1 ratio when leaning a single or extension ladder. (place a 12 foot ladder so that the bottom is 3 feet away from the object the ladder is leaning against.)
• Inspect ladder for defects before using.
• Never use a defective ladder. Tag or mark it so that it will be repaired or destroyed.
• Never splice or lash a short ladder together.
• Never use makeshift ladders, such as cleats fastened across a single rail.
• Be sure that a stepladder is fully open and the metal spreader locked before starting to climb.
• Keep ladders clean and free from dirt and grease.
• Never use ladders during a strong wind except in an emergency and then only when they are securely fastened.
• Never leave placed ladders unattended.
• Never use ladders as guys, braces, or skids, or for any other purpose other than their intended purposes.
• Never attempt to adjust a ladder while a user is standing on the ladder.
• Never jump from a ladder. Always dismount from the bottom rung.

Ladder Safety Devices:
Safety devices are available for both portable and fixed ladders to prevent a climber from falling. Safety devices for portable ladders include slip-resistant bases, safety tops, and any other device to increase the ladder stability. A portable ladder positioned at a location where it may be tipped over by work activities shall be securely fastened at the bottom and top. Safety devices for fixed ladders include cages (which enclose the stairwell) or a restraint belt attached to a sliding fixture anchored to the ladder.

Ladder Inspection:
An inspection program should be set up by which all ladders are inspected once every three months. Appendix B presents a general inspection form. Ladders that are weak, improperly repaired, damaged, have missing rungs, or appear unsafe shall be removed from the job or site for repair or disposal. Before discarding a wood ladder, cut it up so no one can use it again. Additionally, portable ladders must be maintained in good condition at all times and inspected frequently. Tag any ladders that have developed defects with DANGEROUS – DO NOT USE, and remove from service for repair or disposal.

For portable wood ladders, all wood parts shall be free from sharp edges and splinters; sound and free from accepted visual inspection from shake, wane, compression failures, decay, or other irregularities. For portable metal ladders, the design shall be without structural defects or accident hazards such as sharp edges, burrs, etc. The selected metal shall be of sufficient strength to meet the test requirements and shall be protected against corrosion. For fixed ladders, all wood parts shall meet the criteria of wood ladders. All metal parts shall meet the criteria of metal ladders.

Maintenance:
Portable wood ladders may be coated with a water-repellent preservative to provide a suitable protective material. Metal ladders and metal parts on wood ladders should be corrosion-resistant and kept free from nicks. If nicks occur, they should be promptly treated to prevent possible metal fatigue due to rust.

Ladder Inspection Checklist

All Ladders:

- Loose steps or rungs are considered loose if they can be moved at all with the hand
- Loose nails, screws, bolts, or other metal parts
- Cracked, split, or broken uprights, braces, steps, or rungs
- Slivers on uprights, rungs, or steps
- Damaged or worn non-slip bases
- Rusted or corroded spots

Stepladders:

- Wobbly from side strain
- Loose or bent hinge spreaders
- Stop on hinge spreaders broken
- Broken, split, or worn steps
- Loose hinges

Extension Ladders:

- Loose, broken, or missing extension locks
- Defective locks that do not seat properly when the ladder is extended
- Deterioration of rope, from exposure to weather, acid or other destructive agents

Fixed Ladders:

- Loose, worn, or damaged rungs or side rails
- Damaged or corroded parts of cage
- Corroded bolts and rivet heads on inside of metal stacks
- Damaged or corroded handrails or brackets on platforms
- Weakened or damaged rungs on brick or concrete slabs
- Base of ladder obstructed

Definitions

Cage – A guard that may be referred to as a cage or basket guard which is an enclosure that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder.

Extension Ladder – Non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.

Fixed Ladder – Ladder permanently attached to a structure, building, or equipment.

Individual-Rung Ladder – Fixed ladder each rung of which is individually attached to a structure, building, or equipment.

Ladder – An appliance usually consisting of two side rails joined at regular intervals by cross-pieces called steps, rungs, or cleats, on which a person may step in ascending or descending.

Ladder Safety Device – Device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and which may incorporate such features as life belts, friction brakes, and sliding attachments.

Pitch – The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.

Platform Ladder – A self-supporting ladder of fixed size with a platform provided at the working level. The size is determined by the distance along the front rail from the platform to the base of the ladder.

Rail Ladder – Fixed ladder consisting of side rails joined at regular intervals by rungs or cleats and fastened in full length or in sections to a building, structure, or equipment.

Railings – A railing is any one or a combination of those railings constructed in accordance with OSHA Standard 1910.23. A standard railing is a vertical barrier erected along exposed edges of floor openings, wall openings, ramps, platforms, and runways to prevent falls of persons.

Rungs – Ladder cross-pieces of circular or oval cross-section on which a person may step in ascending or descending.

Section Ladder – Non-self-supporting portable ladder, nonadjustable in length, consisting of two or more sections of ladder so constructed that the sections may be combined to function as a single ladder. Its size is designated by the overall length of the assembled sections.

Side-Step Ladder – A ladder in which an individual getting off at the top must step sideways in order to reach the landing.

Single Ladder – Non-self-supporting portable ladder, nonadjustable in length, consisting of but one section. Its size is designated by the overall length of the side rail.

Special-Purpose Ladder – Portable ladder which represents either a modification or a combination of design or construction features in one of the general-purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.

Stepladder – Self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.

Steps – Flat cross-pieces of a ladder on which a person may step in ascending or descending.

Through Ladder – A ladder in which an individual getting off at the top must step through in order to reach the landing.

Well – A permanent complete enclosure around a fixed ladder, which is attached to the walls of the well. Proper clearances for a well will give the person who must climb the ladder the same protection as a cage.

Don-Nan Pump & Supply
Lockout Tagout

Purpose:

Control of Hazardous energy is the purpose of the Lockout- Tagout Program. This program establishes the requirements for isolation of both kinetic and potential electrical, chemical, thermal, hydraulic and pneumatic and gravitational energy prior to equipment repair, adjustment or removal. Reference: OSHA Standard 29 CFR 1910. 147, the control of hazardous energy.

Hazards - Improper or failure to use Lockout - Tagout procedures may result in:

* Electrical shock
* Chemical exposure
* Skin burns
* Lacerations & amputation
* Fires & explosions
* Chemical releases
* Eye injury
* Death

Hazard Controls:

* Only authorized and trained employees may engage in tasks that require use of lockout-tagout procedures
* All equipment has single sources of electrical power
* Lockout procedures have been developed for all equipment and processes
* Restoration from Lockout is a controlled operation

Definitions:

Authorized (Qualified) Employees - are the only ones certified to lock and tagout equipment or machinery. Whether an employee is considered to be qualified will depend upon various circumstances in the workplace. It is likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person, is considered to be "qualified" for the performance of those duties.

Affected Employees - are those employees who operate machinery or equipment upon which lockout or tagging out is required under this program. Training of these individuals will be less stringent in that it will include the purpose and use of the lockout procedures.

Other Employees - are identified as those that do not fall into the authorized, affected or qualified employee category. Essentially, it will include all other employees. These

employees will be provided instruction in what the program is and not to touch any machine or equipment when they see that it has been locked or tagged out.

Training:

Authorized Employees Training:

All Maintenance Employees, Department Supervisors and Janitorial employees will be trained to use the lock and tag out Procedures. The training will be conducted by the Maintenance Supervisor or Safety Coordinator at time of initial hire. Retraining shall be held at least annually. The training will consist of the following:

1. Review of General Procedures
2. Review of Specific Procedures for machinery, equipment and processes
3. Location and use of Specific Procedures
4. Procedures when questions arise

Affected Employee Training:

1. Only trained and authorized Employees will repair, replace or adjust machinery, equipment or processes
2. Affected Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits.
3. Purpose and use of the lockout procedures.
4. All training and/or retraining must be documented, signed and certified by either a Supervisor or Safety Director.

Other Employee Training:

1. Only trained and authorized Employees will repair, replace or adjust machinery or equipment.
2. Other Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits

Preparation for Lock and Tag Out Procedures

A Lockout - Tagout survey has been conducted to locate and identify all energy sources to verify which switches or valves supply energy to machinery and equipment. Dual or redundant controls have been removed.

A Tagout Schedule has been developed for each piece of equipment and machinery. This schedule describes the energy sources, location of disconnects, type of disconnect, special hazards and special safety procedures. The schedule will be reviewed each time to ensure employees properly lock and tag out equipment and machinery. If a Tagout Schedule does not exist for a particular piece of equipment, machinery and process, one must be developed prior to conducting a Lockout - Tagout. As repairs and/or renovations of existing electrical systems are made, standardized controls will be used.

Routine Maintenance & Machine Adjustments:

Lock and Tag Out procedures are not required if equipment must be operating for proper adjustment. This rare exception may be used only by trained and authorized Employees

when specific procedures have been developed to safely avoid hazards with proper training. All consideration shall be made to prevent the need for an employee to break the plane of a normally guarded area of the equipment by use of tools and other devices.

Locks, Hasps and Tags:

All Qualified Maintenance Personnel will be assigned a lock with one key, hasp and tag. All locks will be keyed differently, except when a specific individual is issues a series of locks for complex lockout-tagout tasks. In some cases, more than one lock, hasp and tag are needed to completely de-energize equipment and machinery. Additional locks may be checked out from the Department or Maintenance Supervisor on a shift-by-shift basis. All locks and hasps shall be uniquely identifiable to a specific employee.

SOP: General Lock and Tag Out Procedures:

Before working on, repairing, adjusting or replacing machinery and equipment, the following procedures will be utilized to place the machinery and equipment in a neutral or zero mechanical state.

Preparation for Shutdown. Before authorized or affected employees turn off a machine or piece of equipment, the authorized employee will have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the means to control the energy.

Notify all affected Employees that the machinery, equipment or process will be out of service

Machine or Equipment Shutdown. The machine or equipment will be turned or shut down using the specific procedures for that specific machine. An orderly shutdown will be utilized to avoid any additional or increased hazards to employees as a result of equipment de-energization.

If the machinery, equipment or process is in operation, follow normal stopping procedures (depress stop button, open toggle switch, etc.).

Move switch or panel arms to "Off" or "Open" positions and close all valves or other energy isolating devices so that the energy source(s) is disconnected or isolated from the machinery or equipment.

Machine or Equipment Isolation:

All energy control devices that are needed to control the energy to the machine or equipment will be physically located and operated in such a manner as to isolate the machine or equipment from the energy source.

Lockout or Tagout Device Application:

Lockout or tagout devices will be affixed to energy isolating devices by authorized employees. Lockout devices will be affixed in a manner that will hold the energy isolating devices from the "safe" or "off" position.

Where tagout devices are used they will be affixed in such a manner that will clearly state that the operation or the movement of energy isolating devices from the "safe" or "off" positions is prohibited.

The tagout devices will be attached to the same point a lock would be attached. If the tag cannot be affixed at that point, the tag will be located as close as possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

Lock and tag out all energy devices by use of hasps, chains and valve covers with an assigned individual locks.

Stored Energy:

Following the application of the lockout or tagout devices to the energy isolating devices, all potential or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.

Where the re-accumulation of stored energy to a hazardous energy level is possible, verification of isolation will be continued until the maintenance or servicing is complete.

Release stored energy (capacitors, springs, elevated members, rotating fly wheels, and hydraulic/air/gas/steam systems) must be relieved or restrained by grounding, repositioning, blocking and/or bleeding the system.

Verification of Isolation:

Prior to starting work on machines or equipment that have been locked or tagged out, the authorized employees will verify that isolation or de-energization of the machine or equipment have been accomplished.

After assuring that no Employee will be placed in danger, test all lock and tag outs by following the normal start up procedures (depress start button, etc.).

Caution: After Test, place controls in neutral position.

Extended Lockout – Tagout:

Should the shift change before the machinery or equipment can be restored to service, the lock and tag out must remain. If the task is reassigned to the next shift, those Employees must lock and tag out before the previous shift may remove their lock and tag.

SOP: Release from LOCKOUT/TAGOUT:

Before lockout or tagout devices are removed and the energy restored to the machine or equipment, the following actions will be taken:

1. The work area will be thoroughly inspected to ensure that nonessential items have been removed and that machine or equipment components are operational.

2. The work will be checked to ensure that all employees have been safely positioned or removed. Before the lockout or tagout devices are removed, the affected employees will be notified that the lockout or tagout devices are being removed.

3. Each lockout or tagout device will be removed from each energy isolating device by the employee who applied the device.

SOP: LOTO Procedure for Electrical Plug-Type Equipment:

This procedure covers all Electrical Plug-Type Equipment such as Battery Chargers, some Product Pumps, Office Equipment, Powered Hand Tools, Powered Bench Tools, Lathes, Fans, etc.

When working on, repairing, or adjusting the above equipment, the following procedures must be utilized to prevent accidental or sudden startup:

1. Unplug Electrical Equipment from wall socket or in-line socket.

2. Attach "Do Not Operate" Tag and Plug Box & Lock on end of power cord.

An exception is granted to not lock & tag the plug is the cord & plug remain in the exclusive control of the Employee working on, adjusting or inspecting the equipment.

3. Test Equipment to assure power source has been removed by depressing the "Start" or On" Switch.

4. Perform required operations.

5. Replace all guards removed.

6. Remove Lock & Plug Box and Tag.

7. Inspect power cord and socket before plugging equipment into power source. Any defects must be repaired before placing the equipment back in service.

NOTE: Occasionally used equipment may be unplugged from power source when not in use.

SOP: LOTO Procedures Involving More Than One Employee:

In the preceding SOPs, if more than one Employee is assigned to a task requiring a lock and tag out, each must also place his or her own lock and tag on the energy isolating device(s).

SOP: Management's Removal of Lock and Tag Out:

Only the Employee that locks and tags out machinery, equipment or processes may remove his/her lock and tag. However, should the Employee leave the facility before removing his/her lock and tag, the Maintenance Manager may remove the lock and tag. The Maintenance Manager must be assured that all tools have been removed, all guards have been replaced and all Employees are free from any hazard before the lock and tag are removed and the machinery, equipment or process are returned to service. Notification of the employee who placed the lock is required prior to lock removal.

Contractors:

Contractors, working on company property and equipment must use this Lockout - Tagout procedure while servicing or maintaining equipment, machinery or processes.

Don-Nan Pump & Supply
Noise Expsoure/Hearing Conservation

Purpose:

Conservation of hearing is achieved through preventative measures. To reduce occupational hearing loss, all employees, who work in potentially noisy areas, are provided hearing protection, training and annual hearing tests. OSHA's hearing conservation standard is covered in 29 CFR 1910.95. Engineering controls are applied to reduce noise from equipment and operations.

Responsibilities:

Management:

- Use Engineering and Administrative controls to limit employee exposure
- Provide adequate hearing protection for employees
- Post signs and warnings for all high noise areas
- Conduct noise surveys annually or when new equipment is added
- Conduct annual hearing tests for all employees
- Conduct hearing conservation training for all new employees
- Conduct annual hearing conservation training for all employees

Employees:

- Use company provided, approved hearing protection in designated high noise areas
- Request new hearing protection when needed
- Exercise proper care of issues hearing protection

Training:

At time of hire and annually thereafter, all affected Employees must attend Hearing Conservation Training. The initial training is conducted as part of the New Hire Orientation Program by the Human Resource Department and consists of:

20. Rules and procedures
21. Where hearing protection is required
22. How to use and care for hearing protectors
23. How noise affects hearing and hearing loss

Engineering Controls:

After it is determined that noise exposure above 85 dB (A) are present, engineering controls should be evaluated and implemented to reduce the noise exposure before administrative controls are initiated. Some examples of engineering controls include:

6. Noise reducing baffles
7. Compartmentalization
8. Installing noise reducing gears
9. Installing rubber pads under machinery

When new equipment or machinery is evaluated for purchase, the Safety Manager should be consulted to conduct an evaluation from a safety and health standpoint. One criteria of the evaluation should include the amount of noise the equipment will produce and how it will affect the overall noise exposure.

Administrative Controls:

After engineering controls are evaluated for effectiveness or feasibility, administrative controls should be considered to reduce noise exposure. Administrative controls include restricting exposure time or using personal protective equipment (PPE).

Personal Protective Equipment, such as ear plugs or muffs, may be used to reduce the amount of noise exposure. Each plug or muff has a noise reductions factor (NR) as evaluated by ANSI Standards (S3.19 - 1974 or Z24.22 - 1957). For example, if a work area has an ambient noise exposure of 96 dB (A), the hearing protectors should be rated 6 NR or better to be effective.

If a threshold shift has occurred, use of hearing protection shall be re-evaluated and/or refitted and if necessary a medical evaluation may be required.

According to OSHA Regulations, each location with noise exposures of 85 to 89 dB (A) will provide hearing protectors for the Employee's optional use. Noise exposures at 90 dB (A) or above require the mandatory use of hearing protection. Further, OSHA requires that a variety of hearing protectors be available for Employees to choose (both a variety of plug and muff type hearing protectors).

Types of Hearing Protectors:

Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly. The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against the canal walls. Earmuffs enclose the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

Use of Hearing Protectors:

Management, Supervision and Employees shall properly wear the prescribed hearing protectors while working in or traveling through any section of a Location that is designated a High Noise Area (excluding offices, break rooms, and rest facilities). The following rules will be enforced:

- Personal stereos, such as Walkman's, etc., will not be permitted in any operating area of company property.
- Hearing protectors, at least two types of plugs and one type of muffs, will be provided and maintained by Company
- Hearing protectors and replacements will be provided free of charge
- Hearing protectors will be properly worn at all times, except in offices, break rooms, and rest facilities.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area, and foam inserts should be discarded after each use. It is important to wash hands before handling pre-formed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

Don-Nan Pump & Supply
Personal Protective Equipment (PPE)

Purpose:

The Company provides all Employees with required PPE to suit the task and known hazards. This Chapter covers the requirements for Personal Protective Equipment with the exception of PPE used for hearing conservation and respiratory protection or PPE required for hazardous material response to spills or releases, which are covered under separate programs.

General Policy:

Engineering controls shall be the primary methods used to eliminate or minimize hazard exposure in the workplace. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce or eliminate personnel exposure to hazards. Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses.

Responsibilities:

Management:

* Conduct hazard assessments to identify specific PPE for specific tasks
    * Train employees in the selection, use, inspection, storage, cleaning, and limitations of specific PPE

Supervisors:

* Monitor use of PPE
* Provide replacement PPE when needed
* Identify any new hazards that would require the use of PPE

Employees:

* Properly use and care for assigned PPE
* Immediately inform supervisor if PPE is damaged or not effective

General Rules

Design:

All personal protective clothing and equipment will be of safe design and construction for the work to be performed. Only those items of protective clothing and equipment that meet National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards will be procured or accepted for use.

Hazard assessment and equipment selection:

Hazard analysis procedures shall be used to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the following actions will be taken:

* Select, and have each affected Employee use, the proper PPE
* Communicate selection decisions to each affected Employee
* Select PPE that properly fits each affected employee.

Defective and damaged equipment:

Defective or damaged personal protective equipment shall not be used.

Training:

All Employees who are required to use PPE shall be trained to know at least the following:

* When PPE is necessary;
* What PPE is necessary;
* How to properly don, remove, adjust, and wear PPE;
* The limitations of the PPE
* The proper care, maintenance, useful life and disposal of the PPE.

Each affected Employee shall demonstrate an understanding of the training and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

Certification of training for PPE is required by OSHA and shall be accomplished by using the Job Safety Checklist to verify that each affected Employee has received and understood the required PPE training.

PPE Selection:

Controlling hazards:

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

Selection guidelines:

The general procedure for selection of protective equipment is to:

A) Become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.

B) Compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;

C) Select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards

D) Fit the user with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitations of their PPE.

Fitting the Device:

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Devices with adjustable features:

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face. In addition, proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employee's head. (Chin straps should break at a reasonably low force, however, so as to prevent a strangulation hazard). Where manufacturer's instructions are available, they should be followed carefully.

Eye and Face Protection:

The majority of occupational eye injuries can be prevented by the use of suitable/approved safety spectacles, goggles, or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury.

* Each employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
* Each employee shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors are acceptable.
* Each employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.
* Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.
* Each employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.

Typical hazards that can cause eye and face injury are:

* Splashes of toxic or corrosive chemicals, hot liquids, and molten metals;
* Flying objects, such as chips of wood, metal, and stone dust;
* Fumes, gases, and mists of toxic or corrosive chemicals; and
* Aerosols of biological substances.

Prevention of eye accidents requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, contractors, or others passing through an identified eye hazardous area. To provide protection for these personnel, activities shall procure a sufficient quantity of heavy duty goggles and/or plastic eye

protectors which afford the maximum amount of protection possible. If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over them.

Eye / Face Protection Specifications:

Eye and face protectors procured, issued to, and used by employees, contractors and visitors must conform to the following design and performance standards:

A) Provide adequate protection against the particular hazards for which they are designed

B) Fit properly and offer the least possible resistance to movement and cause minimal discomfort while in use.

C) Be durable

D) Be easily cleaned or disinfected for or by the wearer

E) Be clearly marked to identify the manufacturer

F) Persons who require corrective lenses for normal vision, and who are required to wear eye protection, must wear goggles or spectacles of one of the following types:

1) Spectacles with protective lenses which provide optical correction.

2) Goggles that can be worn over spectacles without disturbing the adjustment of the spectacles.

3) Goggles that incorporate corrective lenses mounted behind the protective lenses.

Eye & Face Protector Use:

Safety Spectacles - Protective eye glasses are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as carpentry, woodworking, grinding, scaling, etc.

Single Lens Goggles - Vinyl framed goggles of soft pliable body design provide adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames. Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to insure protection along with proper vision.

Welders/Chippers Goggles - These goggles are available in rigid and soft frames to accommodate single or two eye piece lenses.

1) Welders goggles provide protection from sparking, scaling or splashing metals and harmful light rays. Lenses are impact resistant and are available in graduated shades of filtration.

2) Chippers/grinders goggles provide eye protection from flying particles. The dual protective eye cups house impact resistant clear lenses with individual cover plates.

Face Shields - These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials, or wire screen. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/ biological splash.

Welding Shields - These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect workers' eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

Filter Lenses for Protection Against Radiant Energy			
Operations	**Electrode Size 1/32 in**	**Arc Current**	**Protective Shade**
Shielded metal arc welding	Less than 3	Less than 60	7
	3-5	60-160	8
	5-8	160-250	10
	More than 8	250-550	11

Torch brazing			3
Torch soldering			2
Note: as a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.			

Selection chart guidelines for eye and face protection		
The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard "source" operations.		
Source	**Hazard**	**Protection**
IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield For severe exposure, use face shield
HEAT-Furnace operation and arc welding	Hot sparks	Faceshields,, spectacles with side. For severe exposure use faceshield.
CHEMICALS-Acid and chemical handling, degreasing, plating	Splash	Goggles, eyecup and cover types. For severe exposure, use face shield.
DUST - Woodworking, buffing, general buffing, general dusty conditions.	Nuisance dust	Goggles, eye cup and cover type

Head Protection

Hats and caps have been designed and manufactured to provide workers protection from impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Safety hats and caps will be of nonconductive, fire and water resistant materials. Bump caps or skull guards are

constructed of lightweight materials and are designed to provide minimal protection against hazards when working in congested areas.

Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work in head-hazard areas. Head protection will also be required to be worn by engineers, inspectors, and visitors at construction sites. Bump caps/skull guards will be issued to and worn for protection against scalp lacerations from contact with sharp objects. They will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

Selection guidelines for head protection:

All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts). Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity), and should not be used around electrical hazards.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other workers who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

Foot Protection:

General requirements:

Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where employee's feet are exposed to electrical hazards.

Selection guidelines for foot protection:

Safety shoes and boots provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in other special situations electrical conductive or insulating safety shoes would be appropriate. Safety shoes or boots with impact protection would be required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection would be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal etc., could be stepped on by employees causing a foot injury.

Hand Protection:

General Requirements:

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Skin contact is a potential source of exposure to toxic materials; it is important that the proper steps be taken to prevent such contact. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.

Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting, and heat. There are gloves available that can protect workers from any of these individual hazards or combination of hazards.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overtly contaminated should be rinsed and then carefully removed after use.

Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The types of glove materials to be used in these situations include leather, welder's gloves, aluminum-backed gloves, and other types of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train, or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

* Ensure that guards are always in place and used.
* Always lock out machines or tools and disconnect the power before making repairs.
* Treat a machine without a guard as inoperative; and
* Do not wear gloves around moving machinery, such as drill presses, mills, lathes, and grinders.

Selection guidelines for hand protection:

Selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. There is no glove that provides protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, etc. Before purchasing gloves, request

documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated. Other factors to be considered for glove selection in general include:

A) As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types.

B) The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.

Selection of gloves for chemical hazards

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and MSDSs before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

All glove materials are eventually permeated by chemicals. However, they can be used safely for limited time periods if specific use and glove characteristics (i.e., thickness and permeation rate and time) are known. The safety office can assist is determining the specific type of glove material that should be worn for a particular chemical.

A) The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects.

B) Generally, any "chemical resistant" glove can be used for dry powders;

C) For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.

D) Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

Don-Nan Pump & Supply
Respiratory Protection

General:

In the Respiratory Protection program, hazard assessment and selection of proper respiratory protective equipment (RPE) is conducted in the same manner as for other types of personal protective equipment (PPE). In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used. References: OSHA Standards *Respiratory Protection* (29 CFR 1910.134)

Responsibilities:

All Employees shall follow the requirements of the Respiratory Protection Program.

Management:

- implement the requirements of this program
- provide a selection of respirators as required
- enforce all provisions of this program
- appoint a specific designated individual to conduct the respiratory protection program
- respiratory equipment will be provided at no cost to all affected employees

Program Administrator:

- review sanitation/storage procedures
- ensure respirators are properly, stored, inspected and maintained
- monitor compliance for this program
- provide training for affected employees
- review compliance and ensure monthly inspection of all respirators
- provide respirator fit testing

Designated Occupational Health care Provider:

- conduct medical aspects of program

Program Administrator:

Each Facility will designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to

administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

Voluntary Use of Respirators is Prohibited:

OSHA requires that voluntary use of respirators, when not required by the company, must be controlled as strictly as under required circumstances. To prevent violations of the Respiratory Protection Standard Employees are not allowed voluntary use of their own or company supplied respirators of any type. Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks).

Program Evaluation:

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented; this includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
- Appropriate respirator selection for the hazards to which the employee is exposed
- Proper respirator use under the workplace conditions the employee encounters and
- Proper respirator maintenance

Record Keeping:

The Company will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the Company in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

Training and Information:

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually and more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace. The training shall ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- Limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions

- How to inspect, put on and remove, use, and check the seals of the respirator
- What the procedures are for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- The general requirements of this program

Retraining shall be conducted annually and when:

- changes in the workplace or the type of respirator render previous training obsolete
- inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
- other situation arises in which retraining appears necessary to ensure safe respirator use

Training will be conducted by instructors certified by _____.
Training is divided into the following sections:

Classroom Instruction

10. Overview of the Company Respiratory Protection Program & OSHA Standard
11. Respiratory Protection Safety Procedures
12. Respirator Selection
13. Respirator Operation and Use
14. Why the respirator is necessary
15. How improper fit, usage, or maintenance can compromise the protective effect.
16. Limitations and capabilities of the respirator.
17. How to use the respirator effectively in emergency situations, including respirator malfunctions
18. How to inspect, put on and remove, use, and check the seals of the respirator.
19. What the procedures are for maintenance and storage of the respirator.
20. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
21. Change out schedule and procedure for air purifying respirators.

Fit Testing:

Hands-on respirator Training:

6. Respirator Inspection
7. Respirator cleaning and sanitizing
8. Record Keeping
9. Respirator Storage

10. Respirator Fit Check
11. Emergencies

Basic Respiratory Protection Safety Procedures:

6. Only authorized and trained Employees may use Respirators. Those Employees may use only the Respirator that they have been trained on and properly fitted to use.
7. Only Physically Qualified Employees may be trained and authorized to use Respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any changes in an Employees health or physical characteristics will be reported to the Occupational Health Department and will be evaluated by a qualified physician.
8. Only the proper prescribed respirator or self contained breathing apparatus (SCBA) may be used for the job or work environment. Air cleansing respirators may be worn in work environments when oxygen levels are between 19.5 percent to 23.5 percent and when the appropriate air cleansing canister, as determined by the Manufacturer and approved by the National Institute for Occupational Health (NIOSH) or the Mine Safety & Health Administration (MSHA), for the known hazardous substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).
9. Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance (example: Employees working in an ammonia compressor room will have an ammonia APR respirator on their person.).
10. Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
11. Employees with respirators loaned on "permanent check out" will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by the Company when returned.
12. The last Employee using a respirator and/or SCBA that are available for general use will be responsible for proper storage and sanitation. Monthly and after each use, all respirators will be inspected with documentation to assure its availability for use.
13. All respirators will be located in a clean, convenient and sanitary location.
14. In the event that Employees must enter a confined space, work in environments with hazardous substances that would be dangerous to life or health should an RPE fail (a SCBA is required in this environment), and/or conduct a hazardous material (HAZMAT) entry, a "buddy system" detail will be used with a Safety Watchman with constant voice, visual or signal line communication. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.

15. Management will establish and maintain surveillance of jobs and work place conditions and degree of Employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.
16. Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard Operation Procedures for General RPE use will be maintained as an attachment to the Respiratory Protection Program and Standard Operation Procedures for RPE use under emergency response situations will be maintained as an attachment to the Emergency Response Program.

Respirator User Policies:

Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

- Wear only the respirator you have been instructed to use. For example, do not wear a self-containing breathing apparatus if you have been assigned and fitted for a half-mask respirator.
- Wear the correct respirator for the particular hazard. For example, some situations, such as chemical spills or other emergencies, may require a higher level of protection than your respirator can handle. Also, the proper cartridge must be matched to the hazard (a cartridge designed for dusts and mists will not provide protection for chemical vapors)
- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted.
- Check the respirator for deterioration before and after use. Do not use a defective respirator.
- Recognize indications that cartridges and canisters are at their end of service. If in doubt, change the cartridges or canisters before using the respirator.
- Practice moving and working while wearing the respirator so that you can get used to it.
- Clean the respirator after each use, thoroughly dry it and place the cleaned respirator in a sealable plastic bag.
- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

Selection of Respirators:

The Company has evaluated the respiratory hazard(s) in each workplace, identified relevant workplace and user factors and has based respirator selection on these factors. Also included are estimates of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. This selection has included appropriate protective respirators for use in IDLH atmospheres, and has limited the selection and use of air-purifying respirators. All selected respirators are NIOSH-certified.

Filter Classifications - These classifications are marked on the filter or filter package

N-Series: Not Oil Resistant

- Approved for non-oil particulate contaminants
- Examples: dust, fumes, mists not containing oil

R-Series: Oil Resistant

- Approved for all particulate contaminants, including those containing oil
- Examples: dusts, mists, fumes
- Time restriction of 8 hours when oils are present

P-Series: Oil Proof

- Approved for all particulate contaminants including those containing oil
- Examples: dust, fumes, mists
- See Manufacturer's time use restrictions on packaging

Respirators for IDLH atmospheres:

- The following respirators will be used in IDLH atmospheres:
- A full face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
- A combination full face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

Respirators for atmospheres that are not IDLH:

The respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

Identification of Filters & Cartridges:

All filters and cartridges shall be labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible. A change out schedule for filters and canisters has been developed to ensure these elements of the respirators remain effective.

Respirator Filter & Canister Replacement:

An important part of the Respiratory Protection Program includes identifying the useful life of canisters and filters used on air-purifying respirators. Each filter and canister shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or

If there is no ESLI appropriate for conditions a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life.

Filter & Cartridge Change Schedule:

Stock of spare filers and cartridges shall be maintained to allow immediate change when required or desired by the employee

Cartridges shall be changed based on the most limiting factor below:

- Prior to expiration date
- Manufacturer's recommendations for use and environment
- After each use
- When requested by employee
- When contaminate odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally
- Cartridges shall remain in their original sealed packages until needed for immediate use

Filters shall be changed based on the most limiting factor below:

- Prior to expiration date
- Manufactures recommendations for the specific use and environment
- When requested by employee
- When contaminate odor is detected
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally
- When discoloring of the filter media is evident
- Filters shall remain in their original sealed package until needed for immediate use.

Respiratory Protection Schedule by Job and Working Condition:

The Company maintains a Respiratory Protection Schedule by Job and Working Condition. This schedule is provided to each authorized and trained Employee. The Schedule provides the following information:

1. Job/Working Conditions
2. Work Location
3. Hazards Present
4. Type of Respirator or SCBA Required
5. Type of Filter/Canister Required
6. Location of Respirator or SCBA
7. Filter/Cartridge change out schedule

The schedule will be reviewed and updated at least annually and whenever any changes are made in the work environments, machinery, equipment, or processes or if respirator different respirator models are introduced or existing models are removed.

Permanent respirator schedule assignments are:

Each person who engages in welding will have their own company provided dust-mist-fume filter APR. This respirator will be worn during all welding operations.

Assigned Protection Factors:
No respirator can provide 100% effectiveness. OSHA has implemented Assigned Protection Factors (APFs) for various types of respirators. The purpose of APFs is to ensure use of respirators does not cause over-exposure to specific contaminants. Maximum permissible exposure levels (PEL) are generally based on specific concentrations over an 8 hour daily period without using a respirator. As an example if a respirator has 90% effectiveness, then a respirator wearer would reach the maximum permissible exposure level in 10 hours ***IF*** the atmospheric conditions were 10 times the PEL.

Our company selects respirators by comparing the exposure level and the maximum concentration of the contaminant in which a particular type of respirator can be used. Known as the Maximum Use Concentration or MUC, this is generally determined by multiplying the respirator's APF by the contaminant's exposure limit. If the level of contaminant is expected to exceed the MUC, the company will select a respirator with a higher APF.

Table of Assigned Protection Factors		
	Operating mode	**Assigned Protection Factors**
I. Air Purifying Respirators [Particulate[b] only][c]:		
Filtering facepiece disposable[d]	Negative Pressure	([d])
Facepiece, half [e]	Negative Pressure	10
Facepiece, full	Negative Pressure	100
Facepiece, half	Powered air-purifying respirators	50
Facepiece, full	Powered air-purifying respirators	1000
Helmet/hood	Powered air-purifying respirators	1000
Facepiece, loose-fitting	Powered air-purifying respirators	25
II. Atmosphere supplying respirators [particulate, gases and vapors[f]]:		
1. Air-line respirator:		

Facepiece, half	Demand	10
Facepiece, half	Continuous Flow	50
Facepiece, half	Pressure Demand	50
Facepiece, full	Demand	100
Facepiece, full	Continuous Flow	1000
Facepiece, full	Pressure Demand	1000
Helmet/hood	Continuous Flow	1000
Facepiece, loose-fitting	Continuous Flow	25
Suit	Continuous Flow	([g])
2. Self-contained breathing Apparatus (SCBA):		
Facepiece, full	Demand	[h]100
Facepiece, full	Pressure Demand	[i]10,000
Facepiece, full	Demand, Recirculating	[h]100
Facepiece, full	Positive Pressure Recirculating	[i]10,000
III. Combination Respirators:		
Any combination of air-purifying and atmosphere-supplying respirators	Assigned protection factor for type and mode of operation as listed above.	

[b] Air purifying respirators with APF <100 must be equipped with particulate filters that are at least 95 percent efficient. Air purifying respirators with APF = 100 must be equipped with particulate filters that are at least 99 percent efficient. Air purifying respirators with APFs >100 must be equipped with particulate filters that are at least 99.97 percent efficient.

[c] The licensee may apply to the Commission for the use of an APF greater than 1 for sorbent cartridges as protection against airborne radioactive gases and vapors (e.g., radioiodine).

[d] Licensees may permit individuals to use this type of respirator who have not been medically screened or fit tested on the device provided that no credit be taken for their use in estimating intake or dose. It is also recognized that it is difficult to perform an effective positive or negative pressure pre-use user seal check on this type of device. All other respiratory protection program requirements listed in § 20.1703 apply. An assigned protection factor has not been assigned for these devices. However, an APF equal to 10 may be used if the licensee can demonstrate a fit factor of at least 100 by use of a validated or evaluated, qualitative or quantitative fit test.

[e] Under-chin type only. No distinction is made in this Appendix between elastomeric half-masks with replaceable cartridges and those designed with the filter medium as an integral part of the facepiece (e.g., disposable or reusable disposable). Both types are acceptable so long as the seal area of the latter contains some substantial type of seal-enhancing material such as rubber or plastic, the two or more suspension straps are adjustable, the filter medium is at least 95 percent

efficient and all other requirements of this Part are met.

[f] The assigned protection factors for gases and vapors are not applicable to radioactive contaminants that present an absorption or submersion hazard. For tritium oxide vapor, approximately one-third of the intake occurs by absorption through the skin so that an overall protection factor of 3 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Exposure to radioactive noble gases is not considered a significant respiratory hazard, and protective actions for these contaminants should be based on external (submersion) dose considerations.

[g] No NIOSH approval schedule is currently available for atmosphere supplying suits. This equipment may be used in an acceptable respiratory protection program as long as all the other minimum program requirements, with the exception of fit testing, are met (i.e., § 20.1703).

[h] The licensee should implement institutional controls to assure that these devices are not used in areas immediately dangerous to life or health (IDLH).

[i] This type of respirator may be used as an emergency device in unknown concentrations for protection against inhalation hazards. External radiation hazards and other limitations to permitted exposure such as skin absorption shall be taken into account in these circumstances. This device may not be used by any individual who experiences perceptible outward leakage of breathing gas while wearing the device.

Physical and Medical Qualifications:

Records of medical evaluations must be retained and made available in accordance with 29 CFR 1910.1020.

Medical evaluation required:

Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. The company provides a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace.

Medical evaluation procedures:

The employee will be provided a medical questionnaire by the designated Occupational Health Care Provider

Follow-up medical examination:

The company shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions in Part B of the questionnaire or whose initial medical examination demonstrates the need for a follow-up medical examination. The follow-up medical examination shall include any medical tests,

consultations, or diagnostic procedures that the Physician deems necessary to make a final determination.

Administration of the medical questionnaire and examinations:

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. The company shall provide the employee with an opportunity to discuss the questionnaire and examination results with the Physician.

Supplemental information for the Physician:

The following information must be provided to the Physician before the Physician makes a recommendation concerning an employee's ability to use a respirator

- The type and weight of the respirator to be used by the employee
- The duration and frequency of respirator use (including use for rescue and escape)
- The expected physical work effort
- Additional protective clothing and equipment to be worn
- Temperature and humidity extremes that may be encountered
- Any supplemental information provided previously to the Physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the Physician remain the same

The Company has provided the Physician with a copy of the written respiratory protection program and a copy of the OSHA Standard 1910.134

Medical determination:

In determining the employee's ability to use a respirator, the Company shall

- Obtain a written recommendation regarding the employee's ability to use the respirator from the Physician. The recommendation shall provide only the following information
- Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator
- The need, if any, for follow-up medical evaluations
- A statement that the Physician has provided the employee with a copy of the Physician's written recommendation
- If the respirator is a negative pressure respirator and the Physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, the Company shall provide a APR if the Physician's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the Company is no longer required to provide a APR

Additional Medical Evaluations:

At a minimum, the Company shall provide additional medical evaluations that comply with the requirements of this section if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator
- A Physician, supervisor, or the respirator program administrator informs the Company that an employee needs to be reevaluated
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

Respirator Fit Testing:

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. The Company shall ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter

The Company has established a record of the qualitative and quantitative fit tests administered to employees including:

- The name or identification of the employee tested
- Type of fit test performed
- Specific make, model, style, and size of respirator tested
- Date of test
- The pass/fail results for Qualitative Fit Test (QLFT) or the fit factor and strip chart recording or other recording of the test results for Quantitative Fit Test (QNFT)

Additional fit tests will be conducted whenever the employee reports, or the Company, Physician, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee notifies the Company, program administrator, supervisor, or Physician that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

Types of Fit Tests:

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of OSHA Standard 1910.134.

- QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full face pieces, the QNFT has been passed with that respirator.
- Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
- Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.
- Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.
- Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration, before that face piece can be used in the workplace.

Fit test records shall be retained for respirator users until the next fit test is administered. Written materials required to be retained shall be made available upon request to affected employees.

Respirator Operation and Use:

Respirators will only be used following the respiratory protection safety procedures established in this program. The Operations and Use Manuals for each type of respirator will be maintained by the Program Administrator and be available to all qualified users.

Surveillance by the direct supervisor shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the Company shall reevaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users shall not remove respirators while in a hazardous environment

- Respirators are to be stored in sealed containers out of harmful atmospheres
- Store respirators away from heat and moisture
- Store respirators such that the sealing area does not become distorted or warped
- Store respirator such that the face piece is protected

Face piece seal protection:

The Company does not permit respirators with tight-fitting face pieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function; or
- Any condition that interferes with the face-to-face piece seal or valve function.

If an employee wears corrective glasses or goggles or other personal protective equipment, the Company shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

Continuing Effectiveness of Respirators:

The Company shall ensure the following that employees leave the respirator use area:

- To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece
- To replace the respirator or the filter, cartridge, or canister elements.

If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, the Company will replace or repair the respirator before allowing the employee to return to the work area.

Procedures for IDLH atmospheres:

For all IDLH atmospheres, the Company shall ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere
- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere
- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue
- The Company or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue
- The Company or designee authorized to do so by the Company, once notified, provides necessary assistance appropriate to the situation

Employee(s) located outside the IDLH atmospheres will be equipped with:

- Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either
- Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or
- Equivalent means for rescue where retrieval equipment is not required.

Cleaning and Disinfecting:

The Company shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The Company shall ensure that respirators are cleaned and disinfected using the Standard Operating Procedure SOP: Cleaning and Disinfecting.

The respirators shall be cleaned and disinfected when:

- Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition
- Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals
- Respirators maintained for emergency use shall be cleaned and disinfected after each use
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Cleaning and Storage of respirators assigned to specific employees is the responsibility of that Employee.

Procedures for Cleaning Respirators:

A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43ºC [110ºF] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43ºC [110ºF] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43ºC (110ºF); or,

2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43ºC (110ºF); or,

3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43ºC [110ºF] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

Respirator Inspection:

All respirators/SCBAs, both available for "General Use" and those on "Permanent Check-out", will be inspected after each use and at least monthly. Should any defects be noted, the respirator/SCBA will be taken to the program Administrator. Damaged Respirators will be either repaired or replaced. The inspection of respirators loaned on "Permanent Check-out" is the responsibility of that trained Employee.

Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters
- Check of elastomeric parts for pliability and signs of deterioration.
- Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when

the pressure falls to 90% of the manufacturer's recommended pressure level. The Company shall determine that the regulator and warning devices function properly

For Emergency Use Respirators the additional requirements apply:

- Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.
- Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

Respirator Storage:

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.

Emergency Respirators shall be:

- Kept accessible to the work area
- Stored in compartments or in covers that are clearly marked as containing emergency respirators
- Stored in accordance with any applicable manufacturer instructions

Repair of Respirators:

Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
- Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

Breathing Air Quality and Use:

The Company shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

- Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and

- Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:

1. Oxygen content (v/v) of 19.5-23.5%;
2. Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
3. Carbon monoxide (CO) content of 10 ppm or less;
4. Carbon dioxide content of 1,000 ppm or less; and
5. Lack of noticeable odor.

- compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air
- oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution
- cylinders used to supply breathing air to respirators meet the following requirements
- cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178)
- cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air
- moisture content in breathing air cylinders does not exceed a dew point of -50 deg.F (-45.6 deg.C) at 1 atmosphere pressure
- breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.
- breathing gas containers shall be marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

Don-Nan Pump & Supply
Hot Work/Welding Safety Procedures

Purpose:

Welding and Hot Work, such as brazing or grinding present a significant opportunity for fire and injury. All precautions of this program must be applied prior to commencing any welding or hot work by company employees or contractors. Reference: OSHA 29 CFR 1910.252

Responsibilities

Management:

* Provide training for all employees whose task include heat, spark or flame producing operations such as welding, brazing, or grinding.
* Develop and monitor effective hot work procedures
* Provide safe equipment for hot work
* Provide proper and effective PPE for all hot work

Supervisors:

* Monitor all hot work operations
* Ensure all hot work equipment and PPE are in safe working order
* Allow only trained and authorized employees to conduct hot work
* Ensure permits are used for all hot work outside authorized areas

Employees:

* Follow all hot work procedures
* Properly use appropriate hot work PPE
* Inspect all hot work equipment before use
* Report any equipment problems
* Not use damaged hot work equipment

Definitions:

Welding/Hot Works Procedures - any activity which results in sparks, fire, molten slag, or hot material which has the potential to cause fires or explosions.

Examples of Hot Works - Cutting, Brazing, Soldering, Thawing Pipes, Torch Applied Roofing, Grinding and Welding.

Special Hazard Occupancies - Any area containing Flammable Liquids, Dust Accumulation, Gases, Plastics, Rubber and Paper Products.

Hazards:

* Fires & Explosions
* Skin burns
* Welding "blindness"

* Respiratory hazards from fumes & smoke

Training

Training shall include:

* Review of requirements listed in OSHA 1910.252
* Use of Hot Works Permit System
* Supervisor Responsibilities
* Fire Watch Responsibilities - specifically, the fire watch must know:
    1. That their ONLY duty is Fire Watch
    2. When they can terminate the watch
    3. How to use the provided fire extinguisher
    4. How to activate fire alarm if fire is beyond the incipient stage
* Operator Responsibilities
* Contractors Responsibilities
* Documentation requirements
* Respirator Usage requirements
* Fire Extinguisher training

Hot Works Procedures:

OSHA 29 CFR 1910.252 required fire prevention actions for welding/hot works.

Where practicable all combustibles shall be relocated at least 35 feet from the work site. **Where relocation is impractical, combustibles shall be protected with flame proof covers, shielded with metal, guards, curtains, or wet down material to help prevent ignition of material.**

Ducts, conveyor systems, and augers that might carry sparks to distant combustibles **shall be protected or shut down.**

Where cutting or welding is done near walls, partitions, ceilings, or a roof of combustible construction, fire-resistant shields or guards shall be provided to prevent ignition.

If welding is to be done on a metal wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side, due to conduction or radiation of heat. **Where combustibles cannot be relocated on the opposite side of the work, a fire watch person shall be provided on the opposite side of the work.**

Welding shall not be attempted on a metal partition, wall, ceiling or roof having a covering or on walls having combustible sandwich panel construction.

If the object to be welded or cut cannot readily be moved, all moveable fire hazards should be removed.

Operators of equipment should report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Repairs shall be made only by qualified personnel.

Cutting or welding on pipes or other metal in contact with combustible walls, partitions, ceilings, or roofs shall not be undertaken if the work is close enough to cause ignition by combustion.

Any welding, cutting or burning of lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints not listed here shall have proper ventilation or respiratory protection. This includes, and not limited to, wearing proper respiratory protection and proper ventilation when hazardous gases and/or dust is a factor.

Cutting or welding shall not be permitted in the following situations:

* In areas not authorized by management.
* In sprinkled buildings while such protection is impaired.
* In the presence of potentially explosive atmospheres, e.g. a flammable
* In areas near the storage of large quantities of exposed, readily ignitable materials.
* In areas where there is dust accumulation of greater than 1/16 inch within 35 feet of the area where welding/hot works will be conducted. All dust accumulation should be cleaned up following the housekeeping program of the facility before welding/hot works are permitted.

Suitable extinguishers shall be provided and maintained ready for instant use.

A fire watch person shall be provided during and for 2 hours past the completion of the welding project.

A cutting/welding permit will be issued on all welding or cutting outside of the designated welding area.

Welding & Hot Work fire prevention measures:

A designated welding area should be established to meet them following requirements:.

a. Floors swept and clean of combustibles within 35 ft. of work area.

b. Flammable and combustible liquids and material will be kept 35 ft. from work area.

c. Adequate ventilation providing 20 air changes per hour, such as a suction hood system should be provided to the work area.

d. At least one 10 lb. dry chemical fire extinguisher should be within access of the 35 ft. of work area.

e. Protective dividers such as welding curtains or non-combustible walls will be provided to contain sparks and slag to the combustible free area.

Requirements for welding conducted outside the designated welding area.

a. Portable welding curtains or shields must be used to protect other workers in the welding area.

b. A hot works permit must be completed and complied with prior to welding operation.

c. Respiratory protection is mandatory unless an adequate monitored air flow away from the welder and others present can be established and maintained.

d. Plastic materials be covered with welding tarps during welding procedures

e. Fire Watch must be provided for all hot work operations.

Welding Standard Operating Procedures:

The following pages list the Welding Standard Operating Procedures (SOP) and are applicable for all electric and gas welding. These SOPs are to be posted at each Designated Welding & Hot Work Area for quick reference and review.

SOP - Electric Welding:

Perform Safety Check on all equipment:

Ensure fire extinguisher is charged and available

Ensure electrical cord, electrode holder and cables are free from defects (no cable splices are allowed within 10 feet of the electrode holder.

Ensure PPE (welding hood, gloves, rubber boots/soled shoes, aprons) are available and have no defects.

Ensure the welding unit is properly grounded.

All defective equipment must be repaired or replaced before use.

Remove flammables and combustibles:

No welding is permitted on or near containers of flammable material, combustible material or unprotected flammable structures.

Place welding screen or suitable barricade around work area to provide a fire safety zone and prevent injuries to passersby (Do not block emergency exits or restrict ventilation)

Ensure Adequate Ventilation and Lighting

Execute Hot Work Permit procedures

Set Voltage Regulator:

No higher than the following for:

Manual Alternating Current Welders - 80 volts

Automatic Alternating Current Welders - 100 volts

Manual or automatic Direct Current Welders -100 volts

Uncoil and spread out welding cable:

To avoid overheating, ensure proper contact of work leads and connections, remove any metal fragments from magnetic work clamps (to avoid electric shock do not wrap welding cables around a body part and avoid welding in wet conditions)

Fire watch for one hour after welding & until all welds have cooled

Perform final fire watch and terminate permit.

SOP: Gas Welding:

Perform Safety Check on all equipment

Ensure tanks have gas and fittings are tight

Ensure fire extinguisher is charged and available

Ensure hoses have no defects

Ensure PPE (welding hood, gloves, rubber boots/soled shoes, aprons) are available and have no defects.

All defective equipment must be repaired or replace before uses.

Remove flammables and combustibles:

No welding is permitted on or near containers of flammable material, combustible material or unprotected flammable structures.

Place welding screen or suitable barricade around work area to provide a fire safety zone and prevent injuries to passersby (Do not block emergency exits or restrict ventilation)

Ensure Adequate Ventilation and Lighting

Execute Hot Work Permit procedures

Open Valves on Oxygen and Gas tanks to desired flow

Shut Tank Valves & relieve hose pressure. Store hoses

Fire watch for one hour after welding & until all welds have cooled

Perform final fire watch and terminate permit.

Don-Nan Pump & Supply
Asbestos Safety Program

Purpose:

The purpose of this program is to establish guidelines and procedures in the operations and maintenance of asbestos containing materials at Don-Nan Pump & Supply to protect all employees, contractors, visitors and vendors from potential health hazards of asbestos related diseases.

This Program applies to all buildings and structures owned by Don-Nan Pump & Supply, to all employees and sub-contractors of Don-Nan Pump & Supply, to occupants of Don-Nan Pump & Supply buildings and to external organizations who may come into contact with or disturb asbestos-containing material in Don-Nan Pump & Supply buildings. The Program applies to routine work during which an employee might encounter asbestos as well as work undertaken to repair or remove asbestos-containing material.

Policy:

It is the policy of Don-Nan Pump & Supply that only qualified employees shall be involved in any asbestos repairs, maintenance or removal. All unqualified employees shall be protected from exposure to asbestos fibers by isolating and controlling access to all affected areas during asbestos work. All tasks involving the disturbance of asbestos containing material will be conducted only after appropriate work controls have been identified and implemented. A qualified supervisor shall be available at asbestos controlled work sites during all activities. Proper personal protective equipment, vacuums and HEPA filters shall be used and properly maintained. If outside contractors are used, the company shall ensure all contractor employees have been properly trained and have been issued proper equipment and protective gear.

Responsibilities

Management:

* Ensure all Asbestos Containing Material is identified and labeled
* Ensure training is effective for authorized employees
* Conduct medical surveillance of affected employees
* Establish engineering controls for all work with asbestos containing material
* Provide adequate and proper equipment and personal protective gear
* Ensure proper disposal of all asbestos containing material

Supervisors:

* Qualified supervisors shall provide effective on-site management during work with asbestos containing material

* Supervisors will notify the Safety Coordinator immediately upon discovering damaged asbestos material

Employees:

* Qualified employees must follow the exact procedures for repair or removal of asbestos containing material, including proper use of containment equipment, clean up equipment and personal protective gear.
* Unqualified employees are to stay clear of all asbestos work areas and report any damaged asbestos containing material to their supervisor

Hazards:

Asbestos is a common, naturally occurring group of fibrous minerals. Asbestos fibers have been used in a variety of building materials; however, Don-Nan Pump & Supply takes an aggressive effort to use non-asbestos containing materials in new construction and renovation projects. Generally, most asbestos is found in pipe insulation, doors, textured paints and plasters, structural fireproofing, and floor tiles. Friable asbestos (that is, material that contains more than 0.1% asbestos by weight and can be crumbled by hand) is a potential hazard because it can release fibers into the air if damaged. Long term exposure to airborne asbestos is necessary for chronic lung disease. Significant and long-term exposure to asbestos from activities that directly disturb asbestos-containing materials (such as asbestos mining) can lead to a variety of respiratory diseases, including asbestosis and mesothelioma (cancer of the lung lining). Asbestosis is a non-malignant, irreversible disease resulting in fibrosis of the lung. Asbestos-related cancers tend also to result from substantial long-term exposure; however, mesothelioma may result from much smaller exposures to asbestos.

Hazard Control

Engineering Controls:

Engineering controls include the use of enclosures such as monitoring equipment, glove bags, tenting, negative pressure work areas, HEPA filters, controlled vacuums, water misters and other equipment to ensure containment and clean up of asbestos work areas.

Administrative Controls:

All qualified workers shall be issued proper personal protective equipment, such as respirators, disposable coveralls, gloves, etc. Written procedures and management authorizations are required for all work involving asbestos containing material

Training Controls:

All qualified employees, supervisors and managers shall received the proper level of training, as outlined in this programs

Definitions

Asbestos - Asbestos is a generic term describing a family of naturally occurring fibrous silicate minerals. As a group, the minerals are noncombustible, do not conduct heat or electricity and are resistant to many chemicals. Although there are several other varieties that have been used commercially, the most common

asbestos mineral types likely to be encountered in Don-Nan Pump & Supply buildings are chrysotile (white asbestos), amosite (brown asbestos), and crocidolite (blue asbestos). Among these, white asbestos is by far the most common asbestos mineral present in Don-Nan Pump & Supply buildings.

Friable Asbestos - Friable asbestos material means finely divided asbestos or asbestos-containing material or any asbestos-containing material that can be crumbled, pulverized or powdered by hand pressure. Individual fibers in friable asbestos-containing material can potentially become airborne and can then present a health hazard. Three types of friable material commonly used in buildings are:

Sprayed fibrous fireproofing

Decorative or acoustic texture coatings

Thermal insulation

Non-friable Asbestos - Non-friable asbestos includes a range of products in which asbestos fiber is effectively bound in a solid matrix from which asbestos fiber cannot normally escape. Non-friable asbestos includes a variety of products including asbestos cement tiles and boards and asbestos reinforced vinyl floor tiles. Cutting, braking, sanding, drilling of similar activities can release asbestos fiber from even non-friable asbestos materials.

Asbestos Work Categories -

Category 1:

Work includes the installation or removal of non-friable asbestos in which the asbestos fiber is locked in a binder such as cement, vinyl or asphalt which holds the material together.

Category 2:

Work involves work with friable asbestos that is of short duration in situations which create low levels of airborne asbestos. Example of category 2 work are enclosure of friable asbestos, application of tape or sealant to asbestos containing pipe insulation and minor removal of friable asbestos and minor installation, maintenance or repair work above false ceilings where sprayed asbestos fireproofing is present on beams.

Category 3:

Work involves possible exposure to friable asbestos over long periods of time or work that generates high levels of asbestos. Included in category 3 work are removal projects where relatively large amounts of asbestos are removed from a building including removal of friable asbestos from structural material, cleaning or removal of heating or air handling equipment that has been insulated with asbestos. Also included in category 3 work are cuttings or grinding of asbestos-containing materials using power tools.

General Rules:

When in doubt, treat all material as containing asbestos and comply with all applicable rules and regulations and protective measures.

All Asbestos Containing Material (ACM) will be handled by certified and licensed asbestos abatement personnel. The friability of the ACM will dictate the type of removal/maintenance required.

Employees who are uncertified and unlicensed will not handle any ACM >1%. This will include encapsulation projects, renovation/removal and/or demolition of any type of structure. This will prevent the potential for accidental exposure from the mishandling of any ACM.

When an uncertified, unlicensed employee questions whether they may be handling suspect ACM, the employee will immediately contact their supervisor. The employee shall not resume working at the site until the area has been checked to verify the material is not ACM.

Uncertified, unlicensed employees will not cross over a barrier/containment area where asbestos projects are in progress.

Any employee who discovers ACM or suspect ACM in damaged or poor condition should report it to their supervisor so the identified material is repaired.

Medical Examinations

Employees assigned to asbestos removal will be given medical examinations at Company expense in compliance with 29 CFR 1926.1101 and 40 CFR 763 - Subpart G.

Within 30 days of first employment or assignment to a job exposing the employee to asbestos containing material

Annually

Within 30 days of termination of employment

Medical examination for employees assigned to asbestos removal will include:

Medical and work history with special emphasis directed to symptoms of the respiratory system, cardiovascular system and digestive tract

Medical questionnaire contained in 29 CFR 1926.1101

A physical examination including a chest roentgenogram and pulmonary function test that includes measurement of the employee's forced vital capacity and expiratory volume

No employee shall be assigned to tasks requiring the use of respirators if an examining physician determines the employee will be unable to function normally while using it or that the employee might otherwise be impaired

Records of all physical examinations performed for asbestos work related activities will be maintained permanently by the Company

Asbestos Inventory

Don-Nan Pump & Supply has conducted surveys and prepared a written inventory of the type and locations of asbestos-containing material to:

Allow for periodic condition inspections

Allow for maintenance and repair of damaged asbestos

For each building the inventory contains the following information

Type of asbestos-containing material (sprayed fireproofing, texture coating, or thermal insulation)

The location of the material

When it has been sampled, the type and percentage of asbestos present

Also included in the survey information is sampling results showing the absence of asbestos in material which might be mistaken for an asbestos-containing material.

Asbestos Identification

Asbestos identification system is used to alert people to the presence of asbestos. Asbestos is identified by tags, stickers, pipe labels, signs and other high visibility means. Where feasible, stickers indicate the presence of asbestos in thermal insulation, in asbestos board and tiles and in other locations. Warnings may also be placed near the entrances of rooms -particularly mechanical rooms where unusually large amounts of asbestos may be present.

Inspection:

Inspection of the condition of friable asbestos is integrated into the Maintenance Department routine inspection program. Periodic inspections and reports on the status of facilities and equipment in Don-Nan Pump & Supply buildings are produced to note damage to asbestos that might result in release of asbestos. When damaged ACM is discovered a work order will be issued to initiate the assessment/remediation as required.

Access Control:

Access to mechanical and electrical rooms, service shafts, tunnels and other locations is to be restricted where asbestos may be present in unusually large amounts and where other hazards may also be present. Such areas are locked and accessible only to authorized personnel. Where sprayed asbestos-containing fireproofing is present in a building above a false ceiling, access to the space is restricted to Maintenance Department employees, Communications Services or authorized contractors.

Repair and Maintenance of ACM:

Should an employee or a contractor encounter material which is not identified and is not listed in the Asbestos Inventory and which might reasonably be expected to be asbestos, the person will stop any work which could create airborne asbestos and report the discovery to a supervisor. Where it is determined that friable asbestos-containing material is in a condition that could likely lead to inhalation exposure, the supervisor will immediately limit access to the location and initiate repairs, removal or encapsulation. Where there is reasonable doubt about the composition of a friable material, it will be treated as asbestos until testing demonstrates that asbestos is present at levels below 1%. Cleanup and repair of asbestos-containing material will only be carried out by the appropriate clean up procedure by employees or contractors who have been properly trained.

When routine work is to take place in an area where asbestos is present or when the work might disturb friable asbestos, employees will be informed of the potential for exposure through a notation on the work order. If upon reviewing the work situation, the employee believes that normal work practices do not provide an adequate measure of safety, the employee will report these concerns to the supervisor. The supervisor will review the work situation and authorize any required additional precautions. All employees, visitors, vendors and contractors will be notified in advance when work involving asbestos is to be carried out in any area of Don-Nan Pump & Supply buildings which they occupy.

Training:

All Don-Nan Pump & Supply employees who remove, repair or work around friable asbestos and those whose work might disturb friable asbestos-containing material will be trained to carry out their work without endangering themselves, their coworkers or other building occupants.

Level 1 Training:

All affected Maintenance Department employees who do not receive levels 2 or 3 training will receive Level 1 training which will acquaint them with:

The types, properties and uses of asbestos

Ways to recognize asbestos

The hazards of asbestos fiber inhalation

Types of activities which could release asbestos fibers

The Don-Nan Pump & Supply Asbestos Inventory and Asbestos Identification

State and Federal regulations regarding work with asbestos and disposal of asbestos-containing waste

Refresher training will be provided every second year. Only those with Level 1 training will be allowed to carry out or supervise Category 1 asbestos work.

Level 2 Training:

All Don-Nan Pump & Supply employees who conduct or may be expected to conduct Category 2 or 3 work will receive training in:

All Level 1 topics

Ways to recognize and avoid damage to asbestos-containing material

The use, fitting, limitations, care and disposal of protective equipment

Asbestos containment and ventilation during removal

Wet and dry clean up procedures

Refresher training will be provided every second year. Except for actual asbestos removal, only those with Level 2 training will be allowed to carry out or supervise Category 2 asbestos work.

Level 3 Training:

Level 3 training will be provided for insulators and others who are authorized to remove friable asbestos and for those who supervise asbestos removal work that is performed by either Don-Nan Pump & Supply Employees or external contractors.

Level 3 training provides practical hands-on experience in all phases of small and medium scale asbestos removal. Those who will carry out small scale asbestos removal work will receive additional on-the-job training working with experienced asbestos workers.

Contracted Work

Asbestos Removal Work:

Major asbestos removal is normally contracted to external firms who specialize in asbestos removal work. Don-Nan Pump & Supply requires that all such work be carried out in accord with the requirements established by Texas regulations. At all such projects the contractor will ensure that cleanup is properly completed and that all asbestos and asbestos contaminated material is collected, and disposed of in accord with the Texas regulations. The contractor will be required to submit air testing results to demonstrate that the cleanup has been carried out properly and the area can be reoccupied safely.

Other Work:

Don-Nan Pump & Supply often employs contractors to service equipment such as, telephones, refrigeration and air conditioning equipment and to carry out other construction and renovation projects. When contractors are required to work in areas where asbestos is present or there is a possibility of disrupting friable asbestos Don-Nan Pump & Supply will provide:

Notification of the known locations and types of asbestos present (or suspected to be present) in the area where the contractor will work

Information on Don-Nan Pump & Supply asbestos labeling system

Don-Nan Pump & Supply requires that contractors:

Carrying out tasks which could potentially create asbestos-containing dust

Follow work practices that reduce to the extent practical the creation of airborne asbestos dust and which meet the asbestos safety standards set by Texas

Immediately report to Maintenance Department when damage occurs to asbestos-containing materials

Employ only workers who have been trained in asbestos safety

ASBESTOS WORK PROCEDURES

Discovering Damaged Asbestos:

When asbestos is discovered the following steps describe the actions to be taken by trades Employees and their supervisors. The steps comply with Don-Nan Pump & Supply Asbestos Policy, which states the long term goal is to remove all asbestos and the short term goal is to manage asbestos to minimize exposure to airborne asbestos. It is important to note that all asbestos is to be logged in the inventory, regardless of its state of repair.

1) Complete the Asbestos Inventory Form - The employee is to complete the FIRST SECTION of the Asbestos Inventory Form and submit it to his Supervisor.

2) Sampling - The Supervisor will determine if samples are required to confirm the existence of asbestos. This will be done by checking the inventory to see if asbestos in that location has already been tested. If necessary, the Supervisor will close off an area (mechanical spaces) or shut down equipment (air handling units) pending test results and remedial action.

3) Repair/Removal and Cleanup - If the asbestos is damaged, it is certain a clean up will be required. The clean up and repair should happen together. The repair and clean up will be charged to a work order and the number recorded on the Inventory Form. If removal is required, the supervisor will determine whether the removal will be carried out by a contractor or by Don-Nan Pump & Supply Employees. The work order number must be logged on the Inventory Form.

4) Labeling - All known asbestos containing material should be labeled. For asbestos-pipe insulation, yellow paint will be applied directly to the insulation. In areas where asbestos is present in multiple locations it will be sufficient to provide warning signage at each entry point into a room. Blue paint will be applied to any new insulation which is not readily obvious to be asbestos free.

5) Logging in Database - After completing the Asbestos Inventory Form, it will be given to the Safety Coordinator for logging into the Asbestos Inventory.

Clean up of Asbestos Containing Material:

Asbestos only poses a health hazard when it becomes airborne and people inhale the fiber. When asbestos-containing material has been disturbed, effective clean up will ensure that asbestos does not present a health hazard. Clean up of dust which might contain traces of asbestos, such as a custodian might encounter in routine cleaning in buildings where asbestos is present, will not require special precautions. To ensure that clean up of significant quantities of asbestos will not cause a health hazard, the following procedure will be followed:

Clean up of significant amounts of asbestos containing material will be only be done by Employees who have been trained and who are wearing appropriate protective clothing and a fitted, air-purifying respirator.

Dry sweeping of asbestos-containing waste or other clean up activities which will create airborne dust are not permitted

Large pieces of asbestos containing material will be collected by hand and properly bagged in accord with the disposal procedure.

When ever possible, asbestos dust will be thoroughly wetted and clean up with a wet mop or a wet vac. Contaminated water will be discharged to a sewer. Containers, mops and other equipment which might be contaminated with asbestos will be rinsed with water and the rinse water discharged to a sewer.

If additional clean up is need it will be carried out using a vacuum equipped with a HEPA filter. Within Maintenance Department there is one vacuum assigned for asbestos clean up.

Non-friable ACM Work:

Asbestos that is effectively bonded in a non-asbestos matrix cannot easily become airborne. As such, provided the material is not broken or abraded, there is little risk of inhalation exposure to asbestos. To ensure that minor work involving non-friable asbestos (including vinyl asbestos tile, asbestos asphalt roofing, and asbestos ceiling and wall tile) the following procedure will be followed.

Procedure:

Before beginning the work the worker will carefully inspect the asbestos-containing material to ensure that the planned work will not create airborne asbestos dust.

Where dust that might contain asbestos fiber is present, the worker will clean the material using a wet method or a HEPA filtered vacuum.

Following completion of the task the worker will carry out any required clean wet methods or a HEPA filtered vacuum and will then carefully bag for disposal all asbestos containing waste.

Note:

Cutting, drilling, sanding or breaking the material are likely to create airborne asbestos dusts and will require additional precautions

Work above false ceilings

Only workers who have successfully completed Level 2 Asbestos Safety Training and who are authorized to do so by Maintenance Department may move ceiling tiles or perform work above the dropped ceilings where asbestos insulation is present on building structure. The following procedure shall be used whenever minor work such as installation of telephone or computer lines, or servicing of ventilation or lighting system components requires work above the suspended ceiling

Procedure:

Before removing a ceiling tile, the area around the tile shall be isolated by creating an enclosure of 4 ml or heavier polyethylene sheeting. The sheeting shall be taped to the ceiling t-bar and the floor using duct tape.

Those working within the enclosure shall wear a properly fitted, air purifying respirator equipped with a particulate filter designed to remove asbestos fibers from inhaled air and a pair of coveralls.

Air supply or return grills located within the enclosure shall be sealed with 4 mil or thicker polyethylene sheeting to prevent contamination of the ventilation system.

The ceiling tile shall be carefully removed and the upper surface vacuumed with a vacuum fitted with a HEPA filter.

The worker shall then carefully vacuum the upper surface of surrounding tiles before carrying out the assigned task.

Following completion of the above-the-ceiling work, the removed ceiling tile shall be replaced and the interior of the enclosure carefully cleaned using wet cleaning techniques or a HEPA filtered vacuum.

Note:

Additional precautions may be required depending upon the specific tasks to be undertaken. Any task, which is likely to disrupt the sprayed-on insulation, will require additional precautions.

Repairs to ACM:

Where asbestos is known or believed to be present in damaged insulation, repairs or removal are needed to prevent asbestos fiber from becoming airborne. Only workers who have successfully completed Level 3 Asbestos Safety training and who are authorized to do so may undertake such repairs or removal. The following procedure will be used whenever minor repairs to asbestos containing insulation are undertaken:

Procedure:

Access to areas where minor repair is to be carried out will be restricted to authorized people only. When necessary, signs will be posted advising of access restrictions.

Workers repairing asbestos containing insulation will wear coveralls and a properly fitted, air purifying respirator equipped with a particulate filter designed to remove asbestos fibers from inhaled air.

Before beginning the repair, the area will be carefully cleaned using the Clean up of Asbestos-Containing Material Procedure

When feasible a drop cloth shall then be placed beneath the insulation to be repaired.

Before beginning the repair, all feasible steps (wetting with amended water, encapsulating adjacent asbestos-containing material, etc.) will be taken to prevent the release of asbestos fibers.

Following the repair the worker will carefully bag for disposal all asbestos-containing waste and clean the surrounding area using wet cleaning techniques or a HEPA filtered vacuum.

Single Use Glove Bag Procedure:

The following procedure will be followed when single-use asbestos removal glove bags are used. The procedure may only be used on tasks that are small enough to be

completely enclosed in the glove bag and which do not leave exposed asbestos in place when the bag is removed.

Preparation:

Only a Employee who has completed level 3 training and who is wearing appropriate coverall and an air purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent) will carry out glove bag removal of asbestos.

Before beginning removal work, access to the area will be restricted. If the work site is located in areas where other Maintenance Department Employees might be exposed to asbestos and in all work sites located in publicly accessible areas, warning notices will be posted.

Steps will be taken to prevent accidental movement, contact with heat, cold or electricity, or release of chemicals.

The work area will be cleaned using a HEPA filtered vacuum or wet cleaning to remove asbestos-containing material contaminating the immediate work area. Where possible a plastic sheet will then be placed beneath the pipe or fitting from which the asbestos is to be removed.

Steps will be taken to prevent exposure where damage to the insulation might allow release of fibers. Steps include making temporary repairs using duck tape or wetting the exposed fiber using amended water.

Glove Bag Removal:

The asbestos-containing material will be thoroughly wetted using amended water.

With tools in bag, the single-use bag will be positioned and secured using adhesive and tape as necessary.

Working through the gloves, the asbestos will be removed exercising care to avoid puncturing the bag.

When removal is compete or bag is full, sprayer (containing amended water) will be inserted into the bag and the pipe or fitting, tools and the bag interior will be washed. Tools will then be placed in an inverted glove withdrawn from bag and the glove sealed from the bag using duct tape.

The tools will then be removed by cutting through the duct tape ensuring that both the bag and the glove remain sealed.

The tools will then be submerged in water and the glove opened. Tools will be cleaned under water.

The glove bag will then be carefully removed, sealed and placed in a sealed container pending packaging for disposal.

Clean Up:

The surface of the pipe or fitting will be carefully wet wiped and treated with sealer.

The plastic sheet will then be carefully wet wiped and rolled up.

All solid waste created during removal jobs including glove bags, disposable coveralls, wipe rags and plastic sheeting will be treated as asbestos containing waste and handled as detailed in the disposal procedure.

Multiple-Use Glove Bag Procedure:

This procedure describes the use of multiple use glove bags. It may be used on tasks that require the bag to be repositioned to complete the entire job.

Preparation:

Only a Employee who has completed level 3 training and who is wearing appropriate coverall and an air purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent) will carry out glove bag removal of asbestos.

Before beginning removal work, access to the area will be restricted. If the work site is located in areas where other Maintenance Department Employees might be exposed to asbestos and in all work sites located in publicly accessible areas, warning notices will be posted.

Steps will be taken to prevent accidental movement, contact with heat, cold or electricity, or release of chemicals.

The work area will be cleaned using a HEPA filtered vacuum or wet cleaning to remove asbestos-containing material contaminating the immediate work area. Where possible a plastic sheet will then be placed beneath the pipe or fitting from which the asbestos is to be removed.

Steps will be taken to prevent exposure where damage to the insulation might allow release of fibers. Steps include making temporary repairs using duck tape or wetting the exposed fiber using amended water.

Glove Bag Removal:

The asbestos containing material will be thoroughly wetted using amended water.

With tools in bag, the bag will be positioned and secured using adhesive and tape as necessary.

Working through the gloves, the asbestos will be removed exercising care to avoid puncturing the bag.

When removal is compete or bag is full, sprayer (containing amended water) will be connected to the valve and the pipe or fitting, tools and the bag interior will be washed. If the bag is to repositioned to remove additional asbestos, remaining exposed ends of asbestos will be thoroughly damped.

Tools will then be placed in an inverted glove withdrawn from bag and the glove sealed from the bag using duct tape.

The tools will then be removed by cutting through the duct tape ensuring that both the bag and the glove remain sealed.

The tools will then be submerged in water and the glove opened. Tools will be cleaned under water.

The glove bag will then be removed and placed in a sealed container pending packaging for disposal.

Clean Up:

The surface of the pipe or fitting will be carefully wet wiped and treated with sealer.

The plastic sheet will then be carefully wet wiped and rolled up.

All solid waste created during removal jobs including glove bags, disposable coveralls, wipe rags and plastic sheeting will be treated as asbestos containing waste and handled as detailed in the disposal procedure.

Modified Enclosure Procedure:

The following Modified Enclosure Method my be used for removal of asbestos from ceilings, walls, beams pipes or other equipment providing that the job is small enough that it can be completed within one shift without the need for repeated entry into the work area.

The method may not be used for jobs involving:

Amosite

Crocidolite

Friable asbestos of any type

Additional precautions will be required if the exhaust air cannot be discharged outdoors. Modified enclosure removals may only be undertaken by Employees who have completed level three training and who have received modified enclosure removal training.

Preparation:

If dust which might contain asbestos is present, pre clean the work site using wet cleaning or HEPA vacuum cleaning.

Protect floor, walls equipment within the work area which might be damaged by water.

Ensure that steps are taken to protect workers from any energized equipment or systems located within the work area.

Post signs and restrict access to work area.

Seal area to prevent air leakage into adjacent areas or air handling system using framing as necessary, 150 ml plastic sheeting, tape, sealants and caulking as required. Construct an overlapping, double curtained entrance to work area.

Install HEPA filtered negative air unit in work area. Unit must provide 4 air changes per hour while maintaining a pressure difference of -0.02 inches of water. Direct filtered exhaust air outdoors.

Removal:

Employees entering the work are shall wear a disposable Tyvek type suit including a head cover and an air purifying respirator (3M 6000 Series with a purple, 6240 particulate filter or equivalent).

With the area sealed and negative air unit in operation, saturate asbestos-containing material with amended water using airless sprayer.

Remove asbestos using additional amended water as needed being careful not to create airborne dust

Brush the area from which asbestos has been removed and then wet wipe or vacuum to remove final traces of asbestos. Following removal of asbestos, treat the area with slow dry sealer.

Clean up:

Place all waste in specially marked heavy duty asbestos waste disposal bags. Seal waste bags securely using duct tape before removing from the enclosure. Wipe all tools with a damp cloth to remove traces of asbestos contamination before removing them from the enclosure.

Wet wipe or vacuum (using the designated shopvac marked ASBESTOS ONLY) all areas within the enclosure not covered by plastic to remove traces of asbestos.

If a HEPA filtered shopvac was used, it shall be wiped with a damp cloth and the hose end covered with tape before being removed from the enclosure. If the vac is to be opened to change a filter or bag, the work will be carried out in an enclosure under negative pressure with HEPA filtered air exhausted outdoors.

Wet wipe the interior of plastic sheeting used to form the enclosure. Remove plastic by rolling, wet wiping any visible particulate matter that make be visible. Wet wipe the disposable Tyvek suit and remove. Place the plastic sheeting, the suit and the used respirator cartridges in an asbestos waste bag along with other remaining contaminated material.

Arrange for reconnection of any services running through the work area which were disconnected to accommodate removal work.

Dispose of waste as per waste disposal procedure.

Disposal of Asbestos Containing Waste Materials

Handling and disposal of asbestos containing waste is regulated by both State and Federal regulations. To ensure compliance with these regulations and to ensure that no-one is exposed to asbestos the following procedure is to be followed:

Only a Employee who has completed Level 2 training and who is wearing appropriate air purifying respirator will package asbestos waste.

Waste asbestos will be thoroughly wetted and then placed in specially labeled 6 mil plastic bags. The bag will be securely sealed using duct tape. The bagged asbestos will then be placed in a second, labeled 6 mil plastic gab which is again taped closed

Asbestos waste may be transported from the location where it was produced to an interim storage location if the bags are free from punctures

or tears and if the outside of the bag is free of asbestos. Asbestos waste will be transported in an enclosed vehicle or beneath a secured tarpaulin. No other cargo may be carried while the waste asbestos is being moved. After the waste asbestos is moved to an interim storage site, the driver will, if necessary clean the vehicle to remove asbestos contamination.

Asbestos waste must be disposed of at a waste disposal site which is approved to receive asbestos by the State Department of Texas.

Shipment of waste asbestos must be coordinated with the waste disposal site which is to receive the waste. Asbestos disposal will normally be carried out by external contractors.

Shipments for disposal must be done in accord with Texas and Federal DOT regulations and must be accompanied by a properly completed shipping document.

Don-Nan Pump & Supply
Abrasive Blasting Standard

Purpose:

The purpose of this standard is to define the use of abrasive media for paint removal and/or surface preparation in the Don-Nan Pump & Supply operations.

Proper personal protective equipment (PPE) as determined by hazard assessment shall be provided and worn.

- The hazard is inhalation of toxic dusts, such as lead from the paint or silica from the blasting media.
- Silica sand and abrasive blasting media containing > 1% crystalline silica is prohibited. The type of blasting media is to be approved by the General Manager.
- Coatings should be considered as lead containing until proven otherwise. If lead or lead containing materials are being removed, a competent person shall be designated to complete the removal.
- If Don-Nan Pump & Supply personnel are involved in lead removal on a customer's property, the customer should be the competent person. If the removal is on Don-Nan Pump & Supply property/equipment the General Manager shall be informed on the removal prior to starting project.
- Where not effectively grounded and or bonded by contact or connection, provisions shall be made to prevent accumulation of static electrical charges which may create a source of ignition in the presence of flammable vapors or gases.
- The work area will be kept clean of dust collecting on floor and equipment.
- Abrasive blasting nozzles will be equipment with a manual shut off valve. The air pressure will not be more than 30lbs. for cleaning of clothing.

Don-Nan Pump & Supply
Forklift & Motorized Pallet Jack Safety

Purpose:

Material handling is a significant safety concern. During the movement of products and materials there are numerous opportunities for personal injury and property damage if proper procedures and caution are not used. This chapter applies to all powered industrial tucks, hoists & lifting gear. The information in this chapter shall be used to train prospective industrial truck operators and provide the basis for refresher and annual retraining. OSHA reference for Powered Industrial Trucks is 1910.178.

Responsibilities

Management:

- Provide adequate training in safe operation of all equipment used to move or access materials
- Provide equipment that is safe to operate
- Implement an "Out of Service" program for damaged equipment
- Not allow modification to equipment except those authorized in writing by the equipment manufacturer
- Establish safe operating rules and procedures

Supervisors:

- Monitor safe operations of material handling equipment
- Ensure all equipment is safety checked daily
- Tag "Out of Service" any damaged equipment

Employees:

- Operate only that equipment for which they have been specifically trained and authorized
- Conduct required daily pre-use inspections
- Report any equipment damage of missing safety gear
- Follow all safety rules and operating procedures

Hazards:

- Falling loads
- Overloading of equipment
- Impact with equipment
- Piercing of containers

- Loading dock roll off
- Chemical contact - battery acid
- Fires during refueling

Hazard Controls:

- Control of equipment keys
- Authorized fueling & recharge areas
- Proper palletizing of material
- Marked travel lanes
- Equipment warning lights
- Seat belts
- Mounted fire extinguishers

Pre-Qualification:

All candidates for Powered Industrial Truck (PIT) operators must meet the following basic requirements prior to starting initial or annual refresher training:

- Must have no adverse vision problems that cannot be corrected by glasses or contacts
- No adverse hearing loss that cannot be corrected with hearing aids
- No physical impairments that would impair safe operation of the PIT
- No neurological disorders that affect balance or consciousness
- Not taking any medication that affects perception, vision, or physical abilities

Training:

Training for Powered Industrial Truck (PIT) Operators shall be conducted by an experienced operator, selected by Management. All operational training shall be conducted under close supervision. All training and evaluation must be completed before an operator is permitted to use a Powered Industrial Truck (forklift, etc) without continual & close supervision. Training consists of:

Trainees may operate a powered industrial truck only:

- Under the direct supervision of persons, selected by management, who have the knowledge, training, and experience to train operators and evaluate their competence; and
- Where such operation does not endanger the trainee or other employees.

Training Content:

Training consists of a combination of formal instruction, practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

Initial Training: Powered industrial truck operators shall receive initial training in the following topics:

Truck-related training topics:

24. Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate
25. Differences between the truck and the automobile
26. Truck controls and instrumentation: where they are located, what they do, and how they work
27. Engine or motor operation
28. Steering and maneuvering
29. Visibility (including restrictions due to loading)
30. Fork and attachment adaptation, operation, and use limitations
31. Vehicle capacity
32. Vehicle stability
33. Any vehicle inspection and maintenance that the operator will be required to perform
34. Refueling and/or charging and recharging of batteries
35. Operating limitations
36. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

Workplace-related topics:

22. Surface conditions where the vehicle will be operated
23. Composition of loads to be carried and load stability
24. Load manipulation, stacking, and unstacking
25. Pedestrian traffic in areas where the vehicle will be operated
26. Narrow aisles and other restricted places where the vehicle will be operated
27. Hazardous (classified) locations where the vehicle will be operated
28. Ramps and other sloped surfaces that could affect the vehicle's stability
29. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
30. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation

Refresher training and evaluation. Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely. Refresher training in relevant topics shall be provided to the operator when:

12. The operator has been observed to operate the vehicle in an unsafe manner

13. The operator has been involved in an accident or near-miss incident
14. The operator has received an evaluation that reveals that the operator is not operating the truck safely
15. The operator is assigned to drive a different type of truck
16. A condition in the workplace changes in a manner that could affect safe operation of the truck
17. Once every 3 years an evaluation will be conducted of each powered industrial truck operator's performance.

Safe Operating Procedures (SOP) & Rules:

- Only authorized and trained personnel will operate PITs.
- All PITs will be equipped with a headache rack, fire extinguisher, rotating beacon, back-up alarm and seat belts. Seat belts will be worn at all times by the Operator.
- The operator will perform daily pre- and post-trip inspections.
- Any safety defects (such as hydraulic fluid leaks; defective brakes, steering, lights, or horn; and/or missing fire extinguisher, lights, seat belt, or back-up alarm) will be reported for immediate repair or have the PIT taken "Out of Service".
- Operators will follow the proper recharging or refueling safety procedures.
- Loads will be tilted back and carried no more than 6 inches from the ground. Loads that restrict the operator's vision will be transported backwards.
- PITs will travel no faster than 5 mph or faster than a normal walk.
- Hard hats will be worn by PIT Operators in high lift areas. .
- Operator will sound horn and use extreme caution when meeting pedestrians, making turns and cornering.
- Passengers may not ride on any portion of a PIT. Only the operator will ride PITs. "NO PASSENGERS" decals will be affixed on all PITs.
- If PITs are used as a man lift, an appropriate man lift platform (cage with standard rails and toe-boards) will be used.
- Aisle will be maintained free from obstructions, marked and wide enough (six foot minimum) for vehicle operation.
- Lift capacity will be marked on all PITs. Operator will assure load does not exceed rated weight limits.
- When un-attended, PITs will be turned off, forks lowered to the ground and parking brake applied.
- All PITs (with exception of pallet jacks) will be equipped with a multi-purpose dry chemical fire extinguisher. (Minimum rating; 2A:10B:C)

- Operators are instructed to report all accidents, regardless of fault and severity, to Management. Management will conduct an accident investigation.
- When loading rail cars and trailers, dock plates will be used. Operators will assure dock plates are in good condition and will store on edge when not in use.
- Rail cars and trailers will be parked squarely to the loading area and have wheels chocked in place. Operators will follow established Docking/Un-Docking Procedures.

Changing and Charging Storage Batteries:

- Battery charging installations shall be located in areas designated for that purpose.
- Facilities shall be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks, and for adequate ventilation for dispersal of fumes from gassing batteries.
- A conveyor, overhead hoist, or equivalent material handling equipment shall be provided for handling batteries.
- Reinstalled batteries shall be properly positioned and secured in the truck.
- A carboy tilter or siphon shall be provided for handling electrolyte.
- When charging batteries, acid shall be poured into water; water shall not be poured into acid.
- Trucks shall be properly positioned and brake applied before attempting to change or charge batteries.
- Care shall be taken to assure that vent caps are functioning. The battery (or compartment) cover(s) shall be open to dissipate heat.
- Smoking is prohibited in the charging area.
- Precautions shall be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
- Tools and other metallic objects shall be kept away from the top of uncovered batteries.

Trucks and Railroad cars:

- The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness before they are driven onto.
- The brakes of highway trucks shall be set and wheel chocks placed under the rear wheels to prevent the trucks from rolling while they are boarded with powered industrial trucks.
- Wheel stops or other recognized positive protection shall be provided to prevent railroad cars from moving during loading or unloading operations.
- Fixed jacks may be necessary to support a semitrailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.

- Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position.

Operations:

- If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.
- Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
- No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
- Unauthorized personnel shall not be permitted to ride on powered industrial trucks.
- Arms or Legs shall not be placed between the uprights of the mast or outside the running lines of the truck.
- When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
- A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.
- There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
- An overhead guard shall be used as protection against falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application, but not to withstand the impact of a falling capacity load.
- A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
- Trucks shall not be parked so as to block fire aisles, access to stairways, or fire equipment.

Traveling:

- All traffic regulations shall be observed, including authorized speed limits. A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.
- The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations.

- Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.
- The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.
- The driver shall be required to look in the direction of, and keep a clear view of the path of travel.
- Grades shall be ascended or descended slowly. When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade. On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
- Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
- Stunt driving and horseplay shall not be permitted.
- The driver shall be required to slow down for wet and slippery floors.
- Dockboard or bridgeplates shall be properly secured before they are driven over. Dockboard or bridgeplates shall be driven over carefully and slowly and their rated capacity never exceeded.
- Running over loose objects on the roadway surface shall be avoided.
- While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.

Loading:

- Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
- Only loads within the rated capacity of the truck shall be handled.
- The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.
- Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.
- A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.
- Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward

except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

Fueling Safety:

- Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.
- Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- No truck shall be operated with a leak in the fuel system until the leak has been corrected.
- Open flames shall not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.

Maintenance of Powered Industrial Trucks:

- Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.
- Those repairs to the fuel and ignition systems of industrial trucks which involve fire hazards shall be conducted only in locations designated for such repairs.
- Trucks in need of repairs to the electrical system shall have the battery disconnected prior to such repairs.
- All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.
- Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.
- Industrial trucks shall be examined before being placed in service, and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. Where industrial trucks are used on a round-the-clock basis, they shall be examined prior to use each shift. Defects when found shall be immediately reported and corrected.
- When the temperature of any part of any truck is found to be in excess of its normal operating temperature, thus creating a hazardous condition, the vehicle shall be removed from service and not returned to service until the cause for such overheating has been eliminated.
- Industrial trucks shall be kept in a clean condition, free of lint, excess oil, and grease. Noncombustible agents should be used for cleaning trucks. Low flash point (below 100 deg. F.) solvents shall not be used. High flash point (at or above 100 deg. F.) solvents may be used.

Safe Operation Procedure for Charging LPG Tank:

1. No Smoking.
2. Move LPG PIT outside for refueling.
3. Turn off PIT.
4. LPG tanks will be removed in the following order:
   -shut off service valve
   -disconnect tank from hose
   -unbuckle and remove tank from bracket
5. LPG tanks will be replaced in to following order:
   -place tank in bracket and re-buckle
   -reconnect hose to tank and tighten firmly
   -open valve slowly and assure proper seal

NOTE: Federal Law Prohibits dispensing an improper fuel type into any Vehicle or into a non-approved fuel container.

In Case of LPG Leaks or Tank Rupture

1. DO NOT start or move the PIT.
2. If fuel hose is leaking, close valve immediately and place PIT "Out of Service" until repaired.
3. If tank ruptures, warn other, immediately leave the area (at least 50 feet) and notify Management. Do not re-enter the area until cleared by Management.

Powered Industrial Truck Pre-Use Checklist:

A check of the following items (as applicable) is to be conducted by the operator prior to use each shift.

Lights
Horn
Brakes
Leaks
Warning Beacon
Backup Warning Alarm
Fire Extinguisher

If any deficiencies are noted, the unit is to be placed OUT OF SERVICE until the problem has been corrected. Additionally, it is the operator's responsibility to notify the immediate supervisor and fill out a maintenance request.

Don-Nan Pump & Supply
Drug-Free Workplace Program

Purpose:
Don-Nan Pump & Supply strives to ensure a workplace that is free of illegal drugs and to eliminate illegal drug use by all employees in the Don-Nan Pump & Supply workplace. This document establishes the responsibilities, procedures, and guidelines for a comprehensive companywide Drug-Free Workplace Program. It provides direction, which should be used in conjunction with other statutory and regulatory requirements. Human Resources Manager should be consulted for further information and guidance.

Policy:
It is a well-established fact that employees who use illegal drugs, on or off duty, tend to be less productive, less reliable, and prone to greater absenteeism, thereby impairing their ability to perform tasks that are critical to the company's focus and resulting in the potential for accidents on duty and failures that can pose serious threats to health, safety, and the protection of property. Illegal drug use is detrimental to the operations and functioning of Don-Nan Pump & Supply employees. Therefore, it is the policy of Don-Nan Pump & Supply Gas Services LLC to ensure a workplace that is free of illegal drugs and to eliminate illegal drug use by all employees in the Don-Nan Pump & Supply workplace, including, to the extent possible, contractor employees. To achieve this policy and as deterrence to illegal drug use, Don-Nan Pump & Supply established a comprehensive drug-prevention program that emphasizes the following:

- Don-Nan Pump & Supply employees who are using illegal drugs should be offered the opportunity for rehabilitation.
- Don-Nan Pump & Supply Gas Services LLC provides drug education and training, employee counseling and assistance, and voluntary drug testing for all employees.
- Don-Nan Pump & Supply employees will be treated with personal dignity, and their privacy will be respected in reaching Don-Nan Pump & Supply's goal of a drug-free workplace.
- Don-Nan Pump & Supply guarantees that disciplinary action will not be taken against employees who voluntarily identify themselves as users of illegal drugs and who otherwise comply with the provisions of this Plan.
- While it is Don-Nan Pump & Supply's intent to help employees overcome their drug-related problems, it must be clear to all that entire illegal drug use by employees will not be tolerated.

Active participation and support of labor organizations can contribute to the success of this program. Don-Nan Pump & Supply will seek ways in which recognized bargaining unit representatives might assist in program implementation, such as in acquainting employees with rehabilitation facilities and by enhancing employee confidence in the program. Don-Nan Pump & Supply will include union representatives in general employee orientation programs.

It is the policy of Don-Nan Pump & Supply that its workplace be free from the illegal use, possession of, or distribution of controlled substances, by the officers and employees of Don-Nan Pump & Supply. The possession and distribution of controlled substances will be dealt with promptly in accordance with legal and administrative disciplinary procedures. However, the

policy's primary goal is to ensure that illegal drug use is eliminated and that Don-Nan Pump & Supply's workplace be safe, healthful, productive, and secure.

Nature, Frequency, And Type of Drug Testing:
The Don-Nan Pump & Supply Plan includes the following types of drug testing:

- Pre-employment testing.
- Reasonable-suspicion testing.
- Involvement in accidents or unsafe-practices.
- Voluntary testing.
- Testing as part of and as a follow-up to counseling or rehabilitation.

The frequency of testing will depend on the type of testing to be conducted. Generally, 10 percent of the pool shall be subject to random testing each year. However, Don-Nan Pump & Supply management reserves the right to increase or decrease the frequency and testing percentage of any category of drug testing, consistent with the duty to achieve a drug-free workplace.

Responsibilities

Human Resources Manager:

- Ensuring the implementation of this program
- Establishing the processes and procedures necessary to carry out this program
- Designating the Don-Nan Pump & Supply Drug Program Manager (DPM).

Drug Program Manager (DPM):

- Reporting to the Human Resources Manager on the status of the Drug-Free Workplace Program.
- Overseeing implementation of this program on a company-wide basis.
- Coordinating all Drug-Free Workplace Program activities wherever possible to conserve resources and to accomplish reliable and accurate testing efficiently.
- Arrange for all testing authorized under this Plan.
- Ensure that all employees, subject to random testing, receive individual notice and that such employees return a signed acknowledgment of receipt.
- Coordinate administrative actions with management when a finding of illegal drug use occurs under this Plan.
- Provide educational materials and training to managers, supervisors, and employees on illegal drugs in the workplace to include the recognition and documentation of facts and circumstances that support a reasonable suspicion that an employee may be using illegal drugs.
- Assist supervisors whose employees have performance and/or personal problems that may be related to illegal drug use.
- Monitor the progress of referred employees during and after the rehabilitation period.
- Maintain a list of rehabilitative and treatment organizations that provide counseling and rehabilitative programs.

Employee Assistance Program (EAP) Administrator:

- Perform the lead role in the development, implementation, and evaluation of the EAP.
- Assist the EAP Coordinator and counselors in establishing their local EAP's.
- Advising on and preparing statistical reports.

Medical Review Officer (MRO):
MRO is responsible for receiving laboratory results generated from the Don-Nan Pump & Supply Drug-Free Workplace Program and for consulting with the Agency MRO, as needed. Each MRO must be a licensed physician with knowledge of substance abuse disorders and the appropriate medical training to interpret and evaluate all positive test results together with an individual's medical history and any other relevant biomedical information. The MRO is responsible for the following:

- Reviewing laboratory test results of employees.
- Ensuring that an individual who has tested positive has been afforded an opportunity to justify the test result.
- Evaluating and determining if the positive test result is justified or unjustified, based on an assessment
- Consistent with confidentiality requirements, referring written determinations regarding all verified positive test results

Supervisors:

Supervisors will become familiar with the requirements of this program, especially the provisions concerning ensuring employees that their personal dignity and privacy will be respected.

Except as modified by Don-Nan Pump & Supply management to suit specific program responsibilities, all supervisors will attend a training session on illegal drug use in the workplace.

Supervisors may recommend a reasonable suspicion test, after first making appropriate factual observations and documenting those observations and obtaining approval from the appropriate management officials.

Upon a finding of illegal drug use, supervisors will refer employees to an EAP Administrator for assistance in obtaining counseling and rehabilitation.
Upon a finding of illegal drug use, supervisors will initiate appropriate disciplinary action

Supervisors will assist management and the EAP Administrator in evaluating employee performance and/or personnel problems that may be related to the use of illegal drugs.

Training and Education

Supervisory Training:

Since supervisors have a key role in establishing and monitoring a drug-free workplace, Don-Nan Pump & Supply shall provide training to assist supervisors in recognizing and

addressing illegal drug use by Don-Nan Pump & Supply employees. Supervisory training will be required of all supervisors and may be presented as a separate course or be included as part of an ongoing supervisory training program. Training will be provided as soon as possible after a person assumes supervisory responsibility; however, failure to receive such training will not invalidate otherwise proper management decisions relating to this program. The purpose of supervisory training is to provide the following information:

- Don-Nan Pump & Supply policies relevant to work-performance problems, drug use, and the Don-Nan Pump & Supply EAP.
- The rights of employees.
- The responsibilities of offering EAP services.
- The ways that performance and behavioral changes should be recognized and documented.
- The roles of the medical staff, supervisors, personnel, and EAP Administrator
- How to use the Don-Nan Pump & Supply EAP.
- How EAP relates to the performance appraisal and the disciplinary process.
- The process of reintegrating employees into the workforce who have successfully completed a rehabilitative program.

Employee Education:

- Drug education for all employees includes the following:
- Objectives of the program
- Types and effects of drugs.
- Rights of the employee.
- Symptoms of drug use and the effects on performance and conduct.
- The relationship of the EAP to the Drug-Free Workplace Program.
- Other relevant treatment, rehabilitative, and confidentiality issues.
- Means of Education

Drug education activities may include the following:

- Distribution of written materials.
- Videotapes.
- Lunchtime employee forums.

Testing For Illegal Drugs

Technical Guidelines for Drug Testing:

Don-Nan Pump & Supply's Drug-Free Workplace Program shall have trained collection personnel, a laboratory certification program, analytical standards and quality assurance requirements for urinalysis procedures, and strict confidentiality requirements.

All laboratories designated for analyzing drug tests must be approved by the MRO.
All tested employees will receive written notification of their test results.
If the verification test indicates the presence of an illegal drug, the MRO will contact the employee and provide him/her the opportunity to justify the positive test result. If the employee chooses to offer an explanation for the positive test result, he/she may present to

the MRO any information and/or declare any condition he/she believes might have affected the test result (e.g., prescribed medication). The MRO will consider all information provided. Employees are not entitled to present evidence to the MRO in a trial-type administrative proceeding, although the MRO has the discretion to accept evidence in any manner he/she deems most efficient or necessary.
If the MRO determines that the employee's justification for the positive test result is adequate, the employee will be so notified, in writing, by the DPM, and the testing procedure is concluded at this point.

If the MRO determines that the employee's justification for the positive test result is not sufficient, the findings are forwarded to the DPM for further action. Upon receipt of MRO findings the DPM shall advise the employee that he/she may request a second test of the specimen and will arrange contact with the MRO, if desired. The second test will be conducted at the same Don-Nan Pump & Supply-contracted laboratory, at Don-Nan Pump & Supply expense. The employee can also request a second test at another certified laboratory. In such instances, the contracted laboratory used by Don-Nan Pump & Supply will send a portion of the original sample to the laboratory designated by the employee. The cost of this test shall be paid by the employee.

Privacy Provision:

Any individual, subject to testing under this program, shall be permitted to provide urine specimens in private and in a rest room stall or similar enclosure so that the employee is not observed while providing the sample, except in those cases where collection-site personnel, with the approval of the DPM, have reason to believe the individual may alter or substitute the specimen to be provided. Such belief should be supported by one of the following:

- The individual's behavior suggests that he/she is under the influence of drugs at the time of the test.
- The individual has previously been found by Don-Nan Pump & Supply to be an illegal-drug user.
- At the time of testing, the individual is found to possess the means of tampering or altering urine samples.
- The individual has previously tampered with a sample.

Notice to Employees:

A general notice announcing the Don-Nan Pump & Supply Drug-Free Workplace Program was provided to all employees at least 60 days prior to the implementation date of this Plan which explained:

- The purpose of the Don-Nan Pump & Supply Drug-Free Workplace Program.
- That the Program included both voluntary and mandatory testing.
- That those who held positions selected for random testing would also receive an individual notice, prior to the commencement of testing, indicating that their position had been designated a .
- The availability and procedures necessary to obtain counseling or rehabilitation through the EAP.
- The circumstances under which testing may occur.

- That opportunity will be afforded to submit medical documentation of lawful use of an otherwise illegal drug.
- That the laboratory assessment is a series of tests which are highly accurate and reliable and that, as an added safeguard, laboratory results are reviewed by the MRO.
- That all medical and rehabilitative records will be deemed confidential "patient" records and may not be disclosed without the prior written consent of the patient, except for the conditions or situations required by law. .
- That a verified positive test result may only be disclosed to:
  a. The employee.
  b. The appropriate EAP Coordinator.
  c. Any management employee whose duties necessitate review of the test result in order to process an adverse personnel action against the employee.
  d. A court of competent jurisdiction or where required by the U.S. Government to defend against any adverse personnel action.
- That Don-Nan Pump & Supply may conduct reasonable-suspicion, accident, or unsafe-practice testing without regard to the 60-day notice requirement.

Types of Testing

Individual Notice - In addition to the general notice, an individual notice will be distributed to all employees subject to testing, explaining, in addition to the information provided in the general notice, the following:

(1) The employee's position has been designated a safety sensitive position.

(2) The employee has the opportunity to identify himself/herself voluntarily as a user of an illegal drug and to receive counseling or rehabilitation.

(3) It is Don-Nan Pump & Supply policy that disciplinary action will not be taken against employees who are found to be using an illegal drug, if the employee accomplishes the following:

(a) Voluntarily identifies himself/herself as a user of an illegal drug.

(b) Successfully completes counseling and rehabilitation.

(c) Thereafter refrains from using illegal drugs.

(d) The employee will be subject to random testing no sooner than 30 days after the date of this notice.

Each employee in a safety sensitive position shall be asked to acknowledge, in writing, that the employee has received and read the notice that states that the employee's position has been designated for random drug testing, and that refusal to submit to testing will result in initiation of disciplinary action, up to and including removal.

If the employee refuses to sign the acknowledgment, the employee's supervisor shall note on the acknowledgment form that the employee received the notice. This acknowledgment shall be collected and maintained by the DPM.

An employee's failure to sign the notice shall not preclude testing that employee or otherwise affect the implementation of the program since the general 60-day notice will have previously notified all employees of the requirement to be drug free.

Notification of Selection - An individual selected for random testing, as well as, the first-level supervisor, will be notified, preferably, on the same day that the test is scheduled and within 2 hours of the scheduled testing. The supervisor will explain to the employee that the employee is under no suspicion of taking drugs, and that the employee's name was selected randomly.

Deferral of Testing - If the first- and second-level supervisors agree, an employee's test may be deferred, if a compelling need necessitates a deferral on the following grounds:

(1) The employee is in an approved leave status (administrative, annual, sick, or leave-without-pay status);
(2) The employee is in official travel status or is about to embark on official travel; or
(3) The employee needs to perform a task or function that is time critical and for which no other employee can be substituted.

An employee whose test is deferred will be subject to an unannounced test within the 60 days following the deferral.

Employee Counseling and Assistance:
While participating in counseling or rehabilitative program, the employee may be exempted from the random testing for a period not to exceed 60 days or for a time period specified in an abeyance contract or rehabilitative plan approved by Don-Nan Pump & Supply management.

Upon successful completion of the counseling or rehabilitative program, the employee will immediately be returned to the random test pool and will be subject to follow-up testing.

Reasonable-Suspicion Testing:
Individuals Subject to Reasonable-Suspicion Testing - Reasonable-suspicion testing may be required of any employee in a position that is designated for random testing when there is a reasonable suspicion that the employee uses illegal drugs whether on or off duty. Reasonable-suspicion testing may also be required of any employee in any position when there is reasonable suspicion of on-duty drug use or on-duty drug impairment.

Reasonable-suspicion testing does not require certainty; however, undocumented "hunches" are not sufficient to warrant such testing. Among other things, reasonable-suspicion testing may be based upon the following:

(1) Observable phenomena, such as direct observation of drug use or possession and/or the physical symptoms of being under the influence of a drug;
(2) Arrest or conviction in the last year for a drug-related offense or the identification of an employee as the focus of a criminal investigation into illegal-drug possession, use, or trafficking (e.g., distribution of a controlled substance);
(3) Information provided either by reliable and credible sources or by independent corroboration; or
(4) Newly discovered evidence that the employee has tampered with a previous test result.

Testing Procedures:

If an employee is suspected of using illegal drugs, the supervisor will document, in writing, the information, facts, and circumstances that form the basis to recommend reasonable-suspicion testing. The written report will include, at a minimum, the appropriate dates and times of the drug-related incidents, reliable (credible) sources of information, and the rationale leading to the recommendation for the test. If reasonable-suspicion testing is conducted, the documentation will be appended to include the findings of the test and the action taken. Concurrence by a higher level supervisor is required, in advance, for all reasonable-suspicion tests.

Upon determination of reasonable suspicion, and after approval from the appropriate management official, the supervisor will contact the DPM, who will normally schedule the test within 2 hours of being notified.

Any employee with a verified positive test result will be subject to the same conditions and procedures as an employee found to use illegal drugs through any other means.

Accident or Unsafe Practice Testing:

Don-Nan Pump & Supply is committed to providing a safe and secure working environment. It also has a legitimate interest in determining the cause of serious accidents so that it can undertake appropriate corrective measures. Post-accident drug testing can provide invaluable information in furtherance of that interest. Accordingly, an employee may be subject to testing when, based upon the circumstances of the accident, their actions are reasonably suspected of having caused or contributed to an accident that meets the following criteria:

a. The accident results in a death or personal injury requiring immediate hospitalization, or

b. The accident results in damage estimated to be in excess of $5,000 to company or private property.

If an employee is suspected of having caused or contributed to an accident meeting either of the above criteria, the appropriate supervisor will present the facts leading to this suspicion to the Don-Nan Pump & Supply Administrator (or designee) for approval. Once approval has been obtained and arrangements have been made with the DPM for testing, the supervisor will prepare a written report detailing the facts and circumstances that warranted the testing. A test should be scheduled as expeditiously as possible.

Voluntary Testing:

Employees not in safety sensitive positions may volunteer for unannounced random testing by notifying the DPM. These employees will then be subject to random testing and will be subject to the same conditions and procedures for finding of illegal drug use as those employees found to use illegal drugs through any other means.

Follow-up Testing:

All employees who have been referred through administrative channels and who successfully complete rehabilitation for illegal drug use will be subject to unannounced

drug testing for a period of 1 year, at an increased frequency of no less than four times per year, or as agreed to in the abeyance contract. Follow-up testing is distinct from testing that may be imposed as a component of the EAP.

Illegal Drug Use and Disciplinary Consequences:
An employee may be found to use illegal drugs on the basis of any appropriate evidence including, but not limited to, direct observation, evidence obtained from an arrest or criminal conviction, a verified positive test result, or an employee's voluntary admission.

Mandatory Administrative Actions:

Don-Nan Pump & Supply shall refer an employee found to use illegal drugs to the EAP. If an employee found to use illegal drugs occupies a safety sensitive position, Don-Nan Pump & Supply management will immediately take the employee out of that position.

At the discretion of the Don-Nan Pump & Supply Administrator (or designee) and as part of an EAP, an employee may be permitted to return to duty in a if the employee's return would not endanger public health or safety or national security.

Range of Consequences:

The severity of the disciplinary action taken against an employee found to use illegal drugs will depend on the circumstances of each case, will be consistent with the Order, and will include the full range of disciplinary actions, including removal. Don-Nan Pump & Supply shall initiate disciplinary action against any employee found to use illegal drugs but shall not discipline an employee who voluntarily admits to illegal drug use.

Disciplinary action, consistent with any collective-bargaining agreement and employment laws and other statutes, Don-Nan Pump & Supply orders, and regulations, may include any of the following measures, but some disciplinary action must be initiated:

- Reprimanding the employee in writing.
- Placing the employee in an enforced leave status.
- Suspending the employee for 14 days or less.
- Suspending the employee for 15 days or more.
- Suspending the employee until the employee successfully completes the EAP or until Don-Nan Pump & Supply determines that action other than suspension is more appropriate.
- Reducing the employee in pay or grade.
- Removing the employee from employment with the company.

Voluntary Referral:

Under the program, Don-Nan Pump & Supply is required to initiate action to discipline any employee found to use illegal drugs in every circumstance, except one. If an employee (1) voluntarily admits his or her drug use; (2) completes counseling or an EAP; and (3) thereafter refrains from drug use, such discipline "is not required."

A fundamental purpose of Don-Nan Pump & Supply's Drug-Free Workplace Program is to assist employees who, themselves, are seeking treatment for drug use. For this reason, Don-Nan Pump & Supply will not initiate disciplinary action against any employee who meets all three of the following conditions:

- Voluntarily identifies himself/herself as a user of illegal drugs, prior to being identified through other means.
- Successfully completes counseling or rehabilitation through an EAP, including follow-up testing.
- Thereafter refrains from using illegal drugs.
- This self-referral option allows any employee to step forward and identify himself/herself as an illegal drug user for the purpose of entering a drug-treatment program under the EAP.

Since the key to this provision's rehabilitative effectiveness is an employee's willingness to overcome "denial" by means of a voluntary self-identification--a decision on the employee's part to admit his or her problem to himself/herself and to others--this provision will not be available to an employee who is asked to provide a urine sample under random, reasonable suspicion, accident or unsafe practice testing, and who thereafter (i.e., just before or after the sample is collected) "admits" his or her drug use.

Initiation of Mandatory Removal from Employment:

Don-Nan Pump & Supply will initiate action to remove an employee for the following:

- Refusing to obtain counseling or rehabilitation through an EAP, as required after having been found using illegal drugs.
- Having been found to have used illegal drugs following a first finding of illegal drug use.

Failure to Appear for Testing:

Failure to appear for testing without justification acceptable to Don-Nan Pump & Supply management will be considered refusal to participate in testing and will subject an employee to the full range of disciplinary actions, including removal.

If an individual fails to appear at the collection site at the assigned time, the collector will contact the Center DPC who will initiate appropriate action.

Refusal to Take a Drug Test:

An employee who refuses to be tested when so required will be subject to the full range of disciplinary action, including removal.

Attempts to alter, substitute, or tamper with the collection of the specimen will be deemed a refusal to take the drug test.

Rehabilitation

Employee Assistance Program (EAP) has been established to:

Assist supervisors who have employees with performance and/or conduct problems and make referrals to treatment and rehabilitative facilities.

Provide counseling and assistance to employees who refer themselves for treatment or who have been found to be illegal drug users and monitor their progress through treatment/rehabilitation.

Make available to all Don-Nan Pump & Supply employees, education and training on the types and effects of drugs, symptoms of drug use, and impact of drugs on performance and conduct, relationship of the EAP with the Don-Nan Pump & Supply Drug-Free Workplace Program, and related treatment, rehabilitative, and confidentiality issues.
The EAP is administered separately from the Don-Nan Pump & Supply Drug-Free Workplace Program.

Referral and Availability:
The EAP shall provide counseling and rehabilitative services for all referrals, as well as education and training for all employees regarding use of illegal drugs. Any employee found to be using illegal drugs will be referred to the EAP; however, the EAP will be available to all employees without regard to a finding of illegal drug use. When feasible, the EAP is also available to Don-Nan Pump & Supply employees with family members who have drug problems.

In the event that the employee is not satisfied with the program of treatment or rehabilitation, such employee may seek review of the EAP Coordinator's referral by notifying the EAP Administrator prior to completion of the program. The decision of the EAP Administrator shall be final and shall not be subject to further administrative review. Regardless of the treatment program chosen, the employee remains responsible for successful completion of the treatment, and assertions that the counselor failed to consider one or more of the factors in making a referral shall constitute neither an excuse for continuing to use illegal drugs nor a defense against disciplinary action if the employee does not complete treatment.

Leave Allowance:
During the assessment/referral phase of rehabilitation, an employee shall be allowed up to 1 hour (or more as necessitated by travel time) of excused absence for each counseling session up to a maximum to be determined by the supervisor according to workload requirements and leave-usage law, regulations, and Don-Nan Pump & Supply policy.

Absences during duty hours for rehabilitation/treatment after the assessment/referral phase must be charged to the appropriate leave category (annual, sick, or leave without pay) in accordance with law and leave regulations.

Records and Reports

Confidentiality of Test Results:
The laboratory may disclose confirmed laboratory test results only to the MRO. Any positive result that the MRO justifies by licit and appropriate medical or scientific documentation to account for the results as other than the intentional ingestion of an illegal drug, will be treated as

a negative test result and may not be released for purposes of identifying illegal drug use. Test results will be protected and may not be released to other persons. The MRO may maintain only those records necessary for compliance with the program. Any records of the MRO, including drug-test results, may be released to any supervisor or management official(s) having authority to take adverse personnel actions for purposes of auditing the activities of the MRO, except that the disclosure of the results of any audit may not include personal identifying information on any employee.

The results of a drug test of a Don-Nan Pump & Supply Gas Services LLC employee may not be disclosed without the prior written consent of such employee, unless the disclosure would be to any of the following:

The MRO;

The EAP Administrator, when the employee is receiving counseling or treatment;

Any supervisor or management official(s) within Don-Nan Pump & Supply having authority to take or recommend adverse personnel action against such employee; or

Pursuant to the order of a court of competent jurisdiction where required by the United States Government to defend against any adverse personnel action.

Test results with all identifying information removed shall also be made available to Don-Nan Pump & Supply personnel, including the DPM, for data collection and other activities necessary to comply with this program.

Employee Access to Records:

Any employee who is the subject of a drug test will, upon written request, have access to any records relating to the following:

Such individual's drug test

The results of any relevant certification, review, or revocation of proceedings

Confidentiality of Records:

All drug-testing information, specifically relating to individuals, is confidential and should be treated as such by anyone authorized to review or compile program records. In order to implement the program efficiently and to make information readily retrievable, the DPM shall maintain all records relating to reasonable-suspicion testing, suspicion of tampering evidence, and any other authorized documentation necessary.

All records and information of the personnel actions taken on employees with verified positive test results should be forwarded to the appropriate personnel office representative. Such shall remain confidential, appropriately safeguarded, allowing access only to authorized individuals who have a "need-to-know."

Maintenance of Records:

Don-Nan Pump & Supply has established a record keeping system to maintain the records of this program, consistent with the Don-Nan Pump & Supply Privacy Act requirements and with all applicable Federal laws, rules, and regulations on confidentiality of records. If necessary, records may be maintained as required by subsequent administrative or judicial proceedings or at the discretion of the Don-Nan Pump & Supply DPM.

- Notices of verified positive test results referred by the MRO.

- Written materials justifying reasonable-suspicion testing or evidence that an individual may have altered or tampered with a specimen.

- Other documents that the DPM, MRO, or EAP Administrator deem necessary for compliance with this program.

Employee Assistance Program (EAP) Records:
The EAP Administrator shall maintain only those records necessary to comply with this program After a management official refers an employee, the EAP Administrator will maintain all records necessary to carry out his/her duties.

All medical and/or rehabilitative records concerning the employee's drug abuse, including EAP records of the identity, diagnosis, prognosis, or treatment are confidential and may be disclosed only as authorized by law.

With written consent, the patient may authorize the disclosure of those records to the patient's employer for verification of treatment or for a general evaluation of treatment progress.

Don-Nan Pump & Supply
Scaffold Safety Program

Purpose:
The purpose of this safety policy and procedure is to establish guidelines for the protection of Don-Nan Pump & Supply employees who work on scaffold work surfaces.

Applicability:
Scaffolding has a variety of applications. It is used in new construction, alteration, routine maintenance, renovation, painting, repairing, and removal activities. Scaffolding offers a safer and more comfortable work arrangement compared to leaning over edges, stretching overhead, and working from ladders. Scaffolding provides employees safe access to work locations, level and stable working platforms, and temporary storage for tools and materials for performing immediate tasks. Scaffolding accidents mainly involve personnel falls and falling materials caused by equipment failure, incorrect operating procedures, and environmental conditions. Additionally, scaffolding overloading is a frequent single cause of major scaffold failure. This safety policy and procedure provides guidelines for the safe use of scaffolds. It includes training provisions and guidelines for scaffold erection and use.

Reference:
This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.28) and Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.451).

Policy:
Scaffolds shall be erected, moved, dismantled, or altered only under the supervision of a competent person and will have guardrails and toeboards installed. When scaffolding hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Scaffolds will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

Responsibilities:
It is the responsibility of each manager/unit head, supervisor, and employee to ensure implementation of Don-Nan Pump & Supply's safety policy and procedure on Scaffolds. It is also the responsibility of each Don-Nan Pump & Supply employee to report immediately any unsafe act or condition to his or her supervisor. Specific responsibilities are found in Section 6.3.

Procedure:
This section provides applicable definitions, establishes general provisions, and identifies specific responsibilities required by Don-Nan Pump & Supply's safety policy and procedure on Scaffolds.

Definitions

Brace - A tie that holds one scaffold member in a fixed position with respect to another member. Brace also means a rigid type of connection holding a scaffold to a building or structure.

Coupler - A device for locking together the component tubes of a tube and coupler scaffold.

Harness - A design of straps which is secured about the employee in a manner to distribute the arresting forces over at least the thighs, shoulders, and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration device.

Hoist - A mechanical device to raise or lower a suspended scaffold. It can be mechanically powered or manually operated.

Maximum Intended Load: The total load of all employee, equipment, tool, materials, transmitted, wind, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

Mechanically Powered Hoist - A hoist which is powered by other than human energy.

Outriggers - The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide greater stability for the scaffold.

Platform - The horizontal working surface of a scaffold.

Safety Belt - A strap with means for securing about the waist or body and for attaching to a lanyard, lifeline, or deceleration device.

Scaffold - Any temporary elevated or suspended platform and its supporting structure used for supporting employees or materials or both, except this term does not include crane or derrick suspended personnel platforms.

Training:
Affected employees will receive instruction on the particular types of scaffolds which they are to use. Training should focus on proper erection, handling, use, inspection, and care of the scaffolds. Training must also include the installation of fall protection, guardrails, and the proper use and care of fall arrest equipment.

This training should be done upon initial job assignment. Retraining shall be done when job conditions change. Periodic refresher training shall be done at the discretion of the supervisor.

Company designated “competent person(s)” will receive additional training regarding the selection of scaffolds, recognition of site conditions, recognition of scaffold hazards, protection of exposed personnel and public, repair and replacement options, and requirements of standards.

Safe Scaffold Erection and Use:

Safe scaffold erection and use is important in minimizing and controlling the hazards associated with their use. Scaffold work practices and rules should be based on:
• Sound design
• Selecting the right scaffold for the job
• Assigning personnel
• Fall protection
• Guidelines for proper erection
• Guidelines for use
• Guidelines for alteration and dismantling
• Inspections
• Maintenance and storage

Types of Scaffolds:
There are many different types of scaffolds used in Don-Nan Pump & Supply. The three major categories are:
• Self-supporting scaffolds
• Suspension scaffolds
• Special use scaffolds

Self-supporting scaffolds - are one or more working platforms supported from below by outriggers, brackets, poles, legs, uprights, posts, frames, or similar supports. The types of self-supporting scaffolds include:
• Fabricated Frame
• Tube and Coupler
• Mobile
• Pole

Suspension scaffolds - are one or more working platforms suspended by ropes or other means from an overhead structure(s). The types of suspension scaffolds include:
• Single-Point Adjustable (Boatswain's Chairs)
• Two-Point Adjustable (Swing Stage)
• Multiple-Point Adjustable
• Multi-Lend
• Category
• Float (Ship)
• Interior Hung
• Needle Beam

Special use scaffolds - and assemblies are capable of supporting their own weight and at least 4 times the maximum intended load. The types of special use scaffolds include:
• Form and Carpenter Bracket
• Roof Bracket
• Outrigger
• Pump Jack
• Ladder Jack

• Window Jack
• Horse
• Crawling Boards
• Step, Platforms, and Trestle Ladder

Responsibilities

Managers/Unit Heads:
Managers/Unit Heads will ensure adequate funds are available and budgeted for the purchase of scaffolds in their areas. They will also identify the employees affected by this safety policy and procedure. Managers/Unit Heads will obtain and coordinate the required training for the affected employees. Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

Supervisors:
Supervisors will not allow any employee who has not received the required training to perform any of the tasks or activities related to scaffold erection and/or dismantling.
Supervisors will communicate appropriate needs to managers/unit heads and/or supervisors.
Supervisors will ensure that employees are provided with PPE as necessary for their job.
Supervisors will ensure that a competent person is in charge of scaffold erection according to the manufacturer's specifications.

Competent Person:
The competent person will oversee the scaffold selection, erection, use, movement, alteration, dismantling, maintenance, and inspection. The competent person will be knowledgeable about proper selection, care, and use of the fall protection equipment. Additionally, the competent person shall assess hazards.

Employees:
Employees shall comply with all applicable guidelines contained in this safety policy and procedure. Employees will report damaged scaffolds, accessories, and missing or lost components. Employees will assist with inspections as requested.

Safety Department:
Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing required training. Safety and Loss Control will also work with Purchasing and Central Equipment Unit to ensure that all newly purchased scaffolds comply with current safety regulations and this safety policy and procedure. Safety Engineers will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.

Purchasing Department:
Purchasing Department is responsible for ensuring that purchased scaffolds and related material and equipment meet or exceed current safety regulations.

Safety Requirements for Scaffolds:

• The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.

• No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons or as requested for corrective reasons by Safety and Loss Control Personnel.

• Guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats. Scaffolds 4 feet to 10 feet in height having a minimum horizontal dimension in either direction of less than 45 inches shall have standard guardrails installed on all open sides and ends of the platform.

• Guardrails must be 2 X 4 inches, or the equivalent, not less than 36 inches or more than approximately 42 inches high, with a midrail when required, of 1 X 4 inch lumber, or the equivalent. Supports must be at intervals not to exceed 8 feet. Toeboard and the guardrail shall extend along the entire opening.

• Scaffolds and their components must be capable of supporting without failure at least 4 times the maximum intended load.

• Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, couplers, etc., damaged or weakened from any cause must be repaired or replaced immediately, and shall not be used until repairs have been completed.

• All load-carrying timber members of scaffold framing shall be a minimum of 1,500 fiber (Stress Grade) construction grade lumber

• All planking must be Scaffold Grades, or equivalent, as recognized by approved grading rules for the species of wood used. The maximum permissible span for 2 X 9 inch or wider planks is shown in the following:

• The maximum permissible span for 1-1/4 X 9 inches or wider plank of full thickness shall be 4 feet with medium duty loading of 50 psf.

• All planking or platforms must be overlapped (minimum 12 inches) or secured from movement.

• An access ladder or equivalent safe access must be provided.

• Scaffold plank must extend over their end supports not less than 6 inches nor more than 18 inches.

• The poles, legs, or uprights of scaffolds must be plumb and securely and rigidly braced to prevent swaying and displacement.

• Overhead protection must be provided for men on a scaffold exposed to overhead hazards.

• Slippery conditions on scaffolds shall be eliminated immediately after they occur.

• No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means or fiber of synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals.

• Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the intended load.

• Scaffolds shall be provided with a screen between the toeboard and guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard wire one-half inch mesh or the equivalent, when personnel are required to work or pass underneath the scaffolds.

• A safe distance from energized power lines shall be maintained.

• Tag lines shall be used to hoist materials to prevent contact.

• Suspension ropes shall be protected from contact with heat sources (welding, cutting, etc.) and from acids or other corrosive substances.

• Scaffolds shall not be used during high wind and storms.

• Ladders and other devices shall not be used to increase working heights on scaffold platforms.

• Scaffolds shall not be moved while employees are on them.

• Loose materials, debris, and/or tools shall not be accumulated to cause a hazard.

• Employees working on suspended scaffolds shall employ a fall-arrest system.

• Scaffold components shall not be mixed or forced to fit which may reduce design strength.

• Scaffolds and components shall be inspected at the erection location. Scaffolds shall be inspected before each work shift, after changing weather conditions, or after prolonged work interruptions.

• Casters and wheel stems shall be pinned or otherwise secured in scaffold legs. Casters and wheels must be positively locked if in a stationary position.

• Tube and coupler scaffolds shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.

Don-Nan Pump & Supply
Back Protection Program

Purpose:
The purpose of this safety policy and procedure is to establish guidelines and procedures for implementing the Don-Nan Pump & Supply Back Protection Program. Back injuries represent the most common type of workers' compensation claim. Jobs within our company with high rates of back injuries tend to be those requiring a great amount of manual load handling. Eliminating and/or minimizing back injuries can result in lower workers' compensation costs and promote the well-being of employees. It is the policy of our company to provide a place of employment that is free from recognized hazards that cause or are likely to cause death or serious physical harm to employees or the public. Therefore, management will administer a back protection program and at risk employees will receive the required training. When lifting hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and additional training regarding Back Protection will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

Definitions:

Behavior Modification - Changing an employee's action or motions from a negative, accident/injury prone behavior to a positive, safe action or motion.

Mechanical Equipment - Any device designed to aid in moving material including cranes, hand trucks, pallet jacks, forklifts, etc.

Lifting Belt - A support designed for the lumbar area of the lower back to provide additional support when lifting.

Risk Factors - Exposures and personal characteristics that affect an individual's chances of experiencing pain associated with lifting related injuries to the back.

Responsibilities:

Managers/Unit Heads - Managers/Unit Heads are responsible for ensuring that adequate funds are available and budgeted for the purchase of equipment and supplies to aid in minimizing lifting related back injuries. They will also be responsible for identifying the employees affected by this safety policy and procedure. Managers/Unit Heads will obtain and coordinate the required training for the affected employees. Managers/Unit Heads will also ensure compliance through their auditing process.

Supervisors - Supervisors will be responsible for communicating appropriate needs to managers/unit heads and/or supervisors. Supervisors will ensure that employees are properly trained before using lifting belts and that they are being worn properly. Supervisors will ensure that no employee is required to lift beyond his or her capabilities. Upon request, employees are to receive assistance in lifting.

Employees - Employees are to report any unsafe act associated with this policy to their supervisors. Employees are to report any injury to their immediate supervisors. Employees that are assigned lifting belts are to maintain them and have them replaced when torn or frayed. Employees must attend the company Back Safety Training program before being authorized to use lifting belts or related personal protective equipment.

Safety Department - Safety Department will provide prompt assistance to managers/unit heads, supervisors, or others as applicable on any matter concerning this safety policy and procedure. Safety will assist in developing or securing the required training and will provide Back Safety training at the request of managers/unit heads. Safety will also work with Purchasing Departments ensure that all newly purchased lifting related equipment and supplies comply with current safety regulations. Additionally, Safety will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.

Training:
Employees who perform manual lifting shall attend Back Safety training on proper lifting techniques. Back belts are not to be used or assigned to employees until they complete the Back Safety training. Training shall be provided upon initial employment and/or new job assignment. Periodic refresher training shall be conducted at the discretion of the supervisor. Training will include, but is not limited to, proper lifting techniques, proper use of the back belt, injury prevention, and behavior modification.

Risk Factors:
There are major differences in the ability of individuals to withstand lifting and other demanding physical labor. Because back pain results from different circumstances, an individual's exposure and personal characteristics affect his or her chances of experiencing lifting related back injuries. Work related risk factors have been identified from various studies and include:

• Heavy lifting and heavy work

• Frequent lifting

• Lifting loads near one's strength capacity

• Occasional very stressful load handling

• Sudden unforeseen events (accidents)

• Prolonged standing or sitting

• Other suspected risk factors, including whole body vibration, pushing, pulling, carrying, twisting, and bending

• Employee's physical condition

Other personal factors that make certain individuals more susceptible to back injury are not included in the above list. Those jobs and tasks that have several or many of the above risk factors should receive a higher priority in assessing your operation's back injury risks.

Identifying Jobs with Risk Factors:

Focusing on the more significant problem areas of back injury potential is the most cost-effective approach in examining the jobs and tasks in your operation. A two-stage prioritizing scheme is recommended when examining your manual lifting operations. First, identify those jobs that involve many of the risk factors. Second, for those identified jobs, specific lifting tasks should be singled out for further analysis. This program includes forms to identify jobs and specific lifting tasks at higher risk levels of lifting related back injuries. Once these specific lifting tasks are identified, the Lifting Task Analysis should be used to quantitatively assess those lifting tasks.

Minimizing Lifting Related Back Injuries:

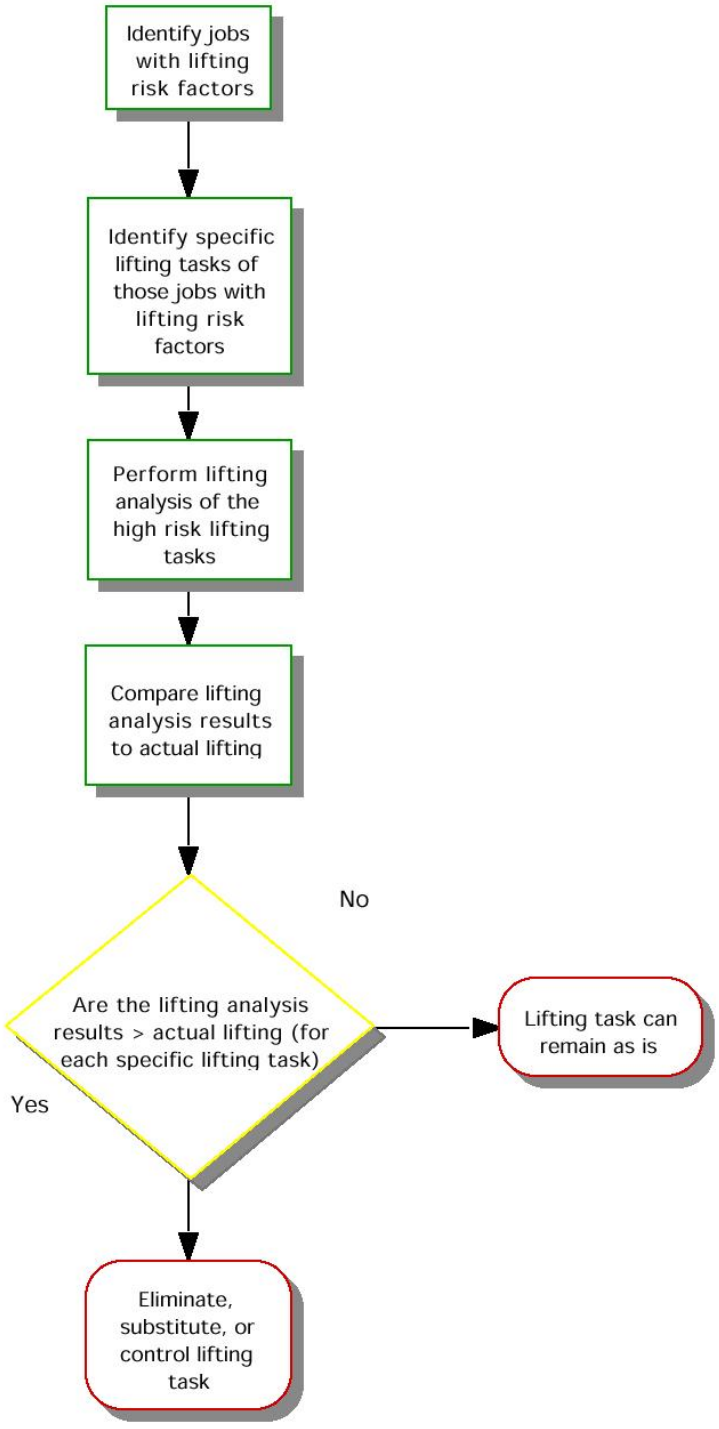
Once specific lifting tasks are identified and assessed, if required, examine options to eliminate or minimize those lifting related back injuries. Look at:

• Elimination of the lifting

• Substitution of the nature of task, if elimination is not possible

• Control stress level imposed on the back when lifting if the two previous approaches do not work.

Back Protection Flow Chart


Identify jobs with lifting risk factors
Identify specific lifting tasks of those jobs with lifting risk factors
Perform lifting analysis of the high risk lifting tasks
Compare lifting analysis results to actual lifting
Are the lifting analysis results > actual lifting (for each specific lifting task)
No
Lifting task can remain as is
Yes
Eliminate, substitute, or control lifting task

Back Injury Risk Factor Assessment

Facility/Jobsite: _____

Location: _____

Person Performing Assessment_____

Date: _____

Instructions:

The following guide is to be used to perform the Back Injury Risk Factor Assessment:

• Identify and list all the jobs in your facility or operation with frequent reports of back injuries (examine accident/injury data as needed).
• Indicate the risk factors that are present for each of those previously identified and listed jobs.
• Note the jobs that require frequent lifting and occasional very stressful lifting. Jobs with frequent lifting and occasional very stressful lifting should be ranked high.
• Make comparative assessments as to which jobs are the most physically stressful to the least physically stressful. (Obtain input as needed from employees experienced in performing several of the jobs.)
• Note the jobs which are the most physically stressful for further examination.
• List the lifting tasks for the highest priority jobs.
• Rank each lifting task, with input from employees, against each other in how stressful the task is to their backs. For example, if there are three lifting tasks, rank them as the most stressful, second most stressful, and least stressful.

Job	Heavy Lifting & Heavy Work	Frequent Lifting	Lifting Loads Near One's Strength Capacity	Occasional Very Stressful Load Handling	Sudden Unforeseen Events (Accidents)	Prolonged Standing or Sitting	Other Risk Factors

Risk factors above include whole body vibration, pushing, pulling, carrying, twisting, and bending. A check mark indicates a confirmatory condition.

Back Injury Risk Factor Assessment (page 2)

Job Title _____	
Lifting Tasks Associated with Job	**Stress Risk Factor**

Once the lifting tasks are identified, perform a lifting task analysis for each task.

Lifting Task Analysis

General: The lifting tasks that were identified as being the most stressful from the back injury risk factor assessment in Appendix A probably are exceeding the safe lifting weight for that particular situation. The most stressful lifting tasks should be evaluated to determine if the recommended weight for that particular lifting situation is being exceeded.

Lifting Analysis: A lifting task is considered to be the act of manually grasping and raising an object of definable size without mechanical aids. The National Institute of Occupational Health (NIOSH) developed a lifting equation which quantifies the variables involved in lifting. This equation is:

AL = 90 (6/H) (1-0.01| V-30|) (0.7+3/D) (1-F/Fmax)

Where:

AL = Action level, in lbs, that over 75 percent of women and 99 percent of men can safely lift

H = Horizontal location forward of the ankles at origin of lift (inches)

V = Vertical location at origin of lift (inches)

D = Vertical travel distance, either up or down, between origin and destination of lift

F = Average frequency of lifts (lifts/minute)

F max = Maximum frequency which can be sustained

These variables are assumed to have the following limits:

• H is between 6 inches and 32 inches.

• V is assumed between 0 inch and 70 inches representing the range of vertical reach for most people.

• D is assumed between 10 inches and (80-V) inches. For travel less than 10 inches, set D = 10.

• F is assumed between 0.2 (one lift every five minutes) and F max (see Table B-1). For lifting less frequently than once per five minutes, set F = 0.

The following Table presents the maximum frequency (F max) which can be sustained for either a standing or stooped position for a 1 hour (occasional) or 8 hour (continuous) period. Select the appropriate F max value for the particular lifting task being analyzed.

	Average Vertical Locations (inches)	
Period	**V>30 Standing**	**V<30 Stooped**

1 Hour	**18**	**15**
8 Hours	**15**	**12**

Example: Given a continuous stooped lifting situation for an 8 hour period with:

H = 8 inches

V = 16 inches

D = 40 inches (average distance)

F = 6 lifts/minute

F max = 12; From 8 hours for V < 30 in a stooped position

Then: AL = 90 (6/8) (1-0.01|16-30|) (0.7+3/40) (1-6/12) = 90 (0.75) (0.86) (0.78) (0.5) = 22.5 lbs

Comparison of Lifting Analysis to Actual Lifting: If the actual weight for the lifting task exceeds the calculated action level for that task, then that lifting task either needs to be eliminated, substituted, or controlled.

Lifting Task Re-design Checklist

Lifting Task: _____

Yes	No	
Elimination Questions		
		Is there really a need for the lifting task?
		Can the need for lifting the load be eliminated?
Substitution Questions		
		Could lift equipment be used instead of the worker's arm and back muscles?
		Could the weight of the load be reduced?
Control Questions		
		Could the load be packaged differently so that the natural way to grasp it would place it closer to the body?
		Could the load be stored differently to reduce the horizontal distance from the body at both pickup and set down points?
		Could the load be packaged differently so that the vertical distance above the floor during both pickup and set down is above knee height and below shoulder height?
		Could the load be stored differently so that the vertical distance above the floor during both pickup and set down is above knee height and below shoulder height?
		Could the vertical distance between the pickup point and set down point be reduced?
		Could the frequency rate of lifting be reduced?
		Could the duration of a lifting session be shortened?
		Could handles or another type of grasping point be made available to improve comfort and control during the lift?
		Could the need to rotate from left to right, or right to left, be reduced?

Don-Nan Pump & Supply
Lead Safety Program

Purpose:

The purpose of the Company's Lead Safety Program is to protect both our employees and the environment from lead contamination from our operations. The intent of our program is to be in full, continuous compliance with OSHA Standard 29 CFR 1910.1025 and all other local, State and Federal requirements for our industry.

Responsibilities

Management will implement, maintain & monitor effectiveness of:

- entire lead safety program, including semi-annual revisions and updates to reflect the current status of the program
- engineering & administrative controls for lead exposure
- employee training and awareness
- medical surveillance program
- respiratory protection program
- lead disposal program
- housekeeping program
- protective clothing issue, storage and disposal

Supervisors will:

- provide effective and continuous control of all lead operations
- immediately inform management of any deficiencies in engineering or administrative controls
- conduct routine assigned inspections and monitoring
- immediate correct any deviation from operational safety requirements
- provide immediate on-the-spot training for any employee who shows lack of knowledge or application of required operational lead safety requirements
- ensure all employees are properly trained before commencing any operation that may contribute to lead exposure

Employees will:

- follow all operational and lead safety procedures
- Seek immediate supervisor guidance to resolve questions
- Conduct operations in accordance with company provided training
- immediately report to a supervisor any deficiency in engineering or administrative controls
- Properly use, store and dispose of issued and assigned personal protective clothing.
- Maintain change and shower areas neat and orderly

Process, Control & Technical Information:

The following information that describes facility specific information concerning processes and controls are maintained as an addendum to this written program:

A. Description of each operation in which lead is emitted; e.g. machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices.

B. Description of the specific means used to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead.

C. Report of the technology considered in meeting the permissible exposure limit;

D. Air monitoring data which documents the source of lead emissions;

E. A detailed schedule for implementation of this program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.

F. Records of Employee Training and Notifications

G. Specific work practice program and controls for each operation involving lead exposure

H. Administrative control schedule

I. All other relevant information

Hazards:

Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds. The Permissible Exposure Limit (PEL) set by OSHA is 50 micrograms of lead per cubic meter of air (50 ug/m (3), averaged over an 8-hour workday.

Lead can be absorbed by inhalation (breathing) and ingestion (eating). Lead is not absorbed through your skin. When lead is scattered in the air as a dust, fume or mist it can be inhaled and absorbed through the lungs and upper respiratory tract. Lead can also be absorbed through the digestive system if swallowed. Handling food, cigarettes, chewing tobacco, or make-up which has lead contamination or handling them with hands contaminated with lead, will contribute to ingestion.

A significant portion of inhaled or ingested lead goes into the blood stream. Once in the blood stream, lead is circulated throughout the body and stored in various organs and body tissues. Some of this lead is quickly filtered out of the body and excreted, but some remains in the blood and other tissues. As exposure to lead continues, the amount stored in the body will increase. Lead stored in body tissues can cause irreversible damage, first to individual cells, then to organs and whole body systems.

Short-term (acute) effects of overexposure to lead:

Lead is a potent, systemic poison. Taken in large enough doses, lead can kill in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardio respiratory arrest. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems, and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

Long-term (chronic) effective of overexposure to lead:

Chronic overexposure to lead may result in severe damage to blood-forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain.

Monitoring

Initial determination - The company has made an initial determination of lead work areas and exposure levels and will conduct subsequent "initial determinations" in the event of changes to hazard control methods or operational processes that affect employee or environmental exposure. Initial determinations are conducted to determine if any employee may be exposed to lead at or above the action level of 30 micrograms per cubic meter of air (30 ug/m) (3) averaged over an 8-hour period.

Where a determination is made that no employee is exposed to airborne concentrations of lead at or above the action level, the company shall maintain a written record. The record shall include quantitative sampling data, date of determination, location within the worksite, and the name and social security number of each employee monitored.

Monitoring requirements:

> Monitoring and analysis methods shall have an accuracy (to a confidence level of 95%) of not less than plus or minus 20 percent for airborne concentrations of lead equal to or greater than 30 ug/m (3).

Where a determination shows the possibility of any employee exposure at or above the action level, the company shall conduct monitoring which is representative of the exposure for each employee in the workplace or process area who is exposed to lead.

For the purposes of monitoring requirements, employee exposure is that exposure which would occur if the employee were not using a respirator.

Monitoring and sample collection shall cover full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

Full shift personal samples must be representative of the monitored employee's regular, daily exposure to lead.

Monitoring Frequency:

At or Above Action Level and Below PEL - Every 6 months ff the initial determination or subsequent monitoring reveals employee exposure to be at or above the action level but below the permissible exposure limit. This monitoring (6 month frequency) will continue until at least two consecutive measurements, taken at least 7 days apart, are below the action level.

Above PEL - If the initial monitoring reveals that employee exposure is above the permissible exposure limit the company will repeat monitoring quarterly. Quarterly monitoring will continue until at least two consecutive measurements, taken at least 7 days apart, are below the PEL but at or above the action level.

Additional monitoring - Whenever there has been a production, process, control or personnel change which may result in new or additional exposure to lead, or whenever any other reason to suspect a change which may result in new or additional exposures to lead, additional monitoring will be conducted.

Employee Notification of Monitoring Results:

Within 5 working days after the receipt of monitoring results, each employee will be notified in writing of the results which represent that employee's exposure.

Whenever the results indicate that the representative employee exposure, without regard to respirators, exceeds the permissible exposure limit, the written notice will include a statement that the permissible exposure limit was exceeded and a description of the corrective action taken or to be taken to reduce exposure to or below the permissible exposure limit.

Observation of monitoring:

The company provides affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to lead.

> Observation procedures - Whenever observation of the monitoring of employee exposure to lead requires entry into an area where the use of respirators, protective clothing or equipment is required, the company will provide the observer with and assure the use of respirators, clothing and equipment required, and will require the observer to comply with all other applicable safety and health procedures.
>
> Without interfering with the monitoring, an observer is entitled to:
>
> - Receive an explanation of the measurement procedures
> - Observe all steps related to the monitoring of lead performed at the place of exposure
> - Record the results obtained or receive copies of the results when returned by the laboratory

Engineering Controls:

Where any employee is exposed to lead above the permissible exposure limit for more than 30 days per year, the company will implement feasible engineering and work practice controls (including administrative controls) to reduce and maintain employee exposure to lead. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit, the company will still use them to reduce exposures to the lowest feasible level and shall supplement them by the use of respiratory protection.

Where any employee is exposed to lead above the permissible exposure limit, but for 30 days or less per year, the company will implement engineering controls to reduce exposures to 200 ug/m (3), but thereafter may implement any combination of engineering, work practice (including administrative controls), and respiratory controls to reduce and maintain employee exposure to lead to or below 50 ug/m (3).

Mechanical ventilation:

When ventilation is used to control exposure, measurements which demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure

shall be made at least every 3 months. Measurements of the system's effectiveness in controlling exposure shall be made within 5 days of any change in production, process, or control which might result in a change in employee exposure to lead.

Recirculation of air - If air from exhaust ventilation is recirculated into the workplace, the system must include:

- A high efficiency filter with reliable back-up filter
- Controls to monitor the concentration of lead in the return air and to bypass the recirculation system automatically if it fails are installed, operating, and maintained.

Administrative Controls:

If administrative controls are used as a means of reducing employees TWA exposure to lead, the company shall establish and implement a job rotation schedule which includes:

- Name or identification number of each affected employee
- Duration and exposure levels at each job or work station where each affected employee is located
- Other information which may be useful in assessing the reliability of administrative controls to reduce exposure to lead

Administrative control information and records will be maintained as an addendum to this written program

Respirators:

When respirators are used to supplement engineering and work practice controls to comply with the PEL and all other requirements have been met, employee exposure, for the purpose of determining compliance with the PEL, may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure. The respiratory protection program will be conducted in accordance with 29 CFR 1910.134 (b) through (d) (except (d) (1) (iii)), and (f) through (m). The company will provide a powered air-purifying respirator when an employee chooses to use this type of respirator and such a respirator provides adequate protection to the employee.

Respirators must be used during:

- Periods necessary to install or implement engineering or work-practice controls.

- Work operations for which engineering and work-practice controls are not sufficient to reduce employee exposures to or below the permissible exposure limit.
- Periods when an employee requests a respirator

Protective Clothing & Equipment:

If an employee is exposed to lead above the PEL, without regard to the use of respirators or where the possibility of skin or eye irritation exists, the company will provide at no cost to the employee appropriate protective work clothing and equipment such as, but not limited to:

- Coveralls or similar full-body work clothing;
- Gloves, hats, and shoes or disposable shoe coverlets; and
- Face shields, vented goggles, or other appropriate protective equipment

Cleaning and replacement - the company will:

- Provide the protective clothing in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over 200 ug/m(3) of lead as an 8-hour TWA.
- Provide for the cleaning, laundering, or disposal of protective clothing and equipment
- Repair or replace required protective clothing and equipment as needed to maintain their effectiveness.
- Assure that all protective clothing is removed at the completion of a work shift only in change rooms provided for that purpose
- Assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of lead outside the container.
- Inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.
- Assure that the containers of contaminated protective clothing and equipment required by paragraph (g) (2) (v) are labeled as follows: CAUTION: CLOTHING CONTAMINATED WITH LEAD. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

- Prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.

Housekeeping:

- All surfaces shall be maintained as free as practicable of accumulations of lead.
- Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.
- Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
- Where vacuuming methods are used, the vacuums shall be used and emptied in a manner which minimizes the reentry of lead into the workplace.

Hygiene Facilities & Practices:

The following is requirements pertain to all areas where employees are exposed to lead above the PEL, without regard to the use of respirators:

- No storage or consumption of food or beverages
- No tobacco product storage or use
- No cosmetics stored or used
- No personal clothing or articles, except in authorized change areas

Change rooms:

Clean change rooms are provided for employees who work in areas where their airborne exposure to lead is above the PEL. Change rooms are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination. Employees who are required to shower after work shifts are not allowed to leave the workplace wearing any clothing or equipment worn during the work shift.

Showers:

Employees who work in areas where their airborne exposure to lead is above the PEL must shower at the end of the each work shift.

Lunchrooms:

Separate lunchroom facilities are provided for employees who work in areas where their airborne exposure to lead is above the PEL. These facilities are temperature controlled, have positive pressure and filtered air supply, and are readily accessible to employees. All affected employees must wash their hands and face prior to eating, drinking, smoking or applying cosmetics in the lunchroom area. Employees may not enter lunchroom facilities with protective work clothing or

equipment unless surface lead dust has been removed by vacuuming, down draft booth, or other cleaning method.

Lavatories:

An adequate number of separate lavatory facilities are maintained for employees who work in lead controlled process areas.

Signs:

Proper signs will be posted at the entrance and exits to all lead hazard areas, No other signs or statements may appear on or near any lead hazard sign which contradicts or detracts from the meaning of the required sign. All lead hazard signs will be kept illuminated and cleaned as necessary so that the legend is readily visible. The signs will contain the following or other appropriate wording/warning:

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

Employee Training:

All affected employees will participate in the company Lead Safety Training program. All affected employees will be trained prior to the time of initial job assignment and at least annually.

Employee training will consist of:

- specific OSHA requirements contained in
    - 1910.1025 - OSHA Lead Standard
    - 1910.1025 App A - Substance data sheet for occupational exposure to lead
    - 1910.1025 App B - Employee standard summary
- specific nature of the operations which could result in exposure to lead above the action level
- purpose, proper selection, fitting, use, and limitations of respirators;
- purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females);
- engineering controls and work practices associated with the employee's job assignment;
- contents of the company compliance plan
- instructions that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician
- materials pertaining to the Occupational Safety and Health Act

A copy of the OSHA standard 1910.1025 and its appendices will be readily available to all affected employees.

Medical Surveillance:

The company has instituted a medical surveillance program for all employees who are or may be exposed above the action level for more than 30 days per year. This medical surveillance program and all medical examinations and procedures are performed by or under the supervision of a licensed physician. The program functions under the requirements of OSHA Standard 1910.1025. Elements of the program include:

- Biological monitoring
- Employee notification
- Medical examinations and consultations
- Medical removal protection
- Medical removal protection benefits

Recordkeeping:

All records relating to the company lead safety program are to be maintained for at least 40 years or for the duration of employment plus 20 years, whichever is longer. The following records will be established and maintained:

Exposure monitoring:

- Date(s), number, duration, location and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable

- Description of the sampling and analytical methods used and evidence of their accuracy

- Type of respiratory protective devices worn, if any

- Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent

- Environmental variables that could affect the measurement of employee exposure

Medical surveillance:

- The name, social security number, and description of the duties of the employee;
- A copy of the physician's written opinions;
- Results of any airborne exposure monitoring done for that employee and the representative exposure levels supplied to the physician
- Any employee medical complaints related to exposure to lead.
- A copy of the medical examination results including medical and work history

- A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;
- A copy of the results of biological monitoring.

Medical removals:

- Name and social security number of the employee;
- Date on each occasion that the employee was removed from current exposure to lead as well as the corresponding date on which the employee was returned to his or her former job status;
- Brief explanation of how each removal was or is being accomplished; and
- Statements with respect to each removal indicating whether or not the reason for the removal was an elevated blood lead level.

Lead Health Hazard Information for Employees:

Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that worker blood lead (PbB) levels be maintained at or below forty micrograms per one hundred grams of whole blood (40 ug/100g). The blood lead levels of workers (both male and female workers) who intend to have children should be maintained below 30 ug/100g to minimize adverse reproductive health effects to the parents and to the developing fetus.

The measurement of your blood lead level is the most useful indicator of the amount of lead being absorbed by your body. Blood lead levels (PbB) are most often reported in units of milligrams (mg) or micrograms (ug) of lead (1 mg=1000 ug) per 100 grams (100g), 100 milliters (100 ml) or deciliter (dl) of blood. These three units are essentially the same. Sometime PbB's are expressed in the form of mg% or ug%. This is a shorthand notation for 100g, 100 ml, or dl.

PbB measurements show the amount of lead circulating in your blood stream, but do not give any information about the amount of lead stored in your various tissues. PbB measurements merely show current absorption of lead, not the effect that lead is having on your body or the effects that past lead exposure may have already caused. Past research into lead-related diseases, however, has focused heavily on associations between PbBs and various diseases. As a result, your PbB is an important indicator of the likelihood that you will gradually acquire a lead-related health impairment or disease.

Once your blood lead level climbs above 40 ug/100g, your risk of disease increases. There is a wide variability of individual response to lead, thus it is difficult to say that a particular PbB in a given person will cause a particular effect. Studies have associated fatal encephalopathy with PbBs as low as 150 ug/100g. Other studies have shown other forms of diseases in some workers with PbBs well below 80 ug/100g. Your PbB is a crucial indicator of the risks to your health, but one other factor is also extremely important. This factor is the length of time you have had elevated PbBs. The longer you have an elevated PbB, the greater the risk that large quantities of lead are being gradually stored in your organs and tissues (body burden). The greater your overall body burden, the greater the chances of substantial permanent damage.

The best way to prevent all forms of lead-related impairments and diseases-both short term and long term- is to maintain your PbB below 40 ug/100g. The company lead safety program is designed with this end in mind. You as a worker have a responsibility to assist in complying with the company program. You play a key role in protecting your own health by learning about the lead hazards and their control, learning what the company program requires and following management and supervisor requirements where they govern your own actions.

Reporting signs and symptoms of health problems - You should immediately notify your supervisor if you develop signs or symptoms associated with lead poisoning or if you desire medical advice concerning the effects of current or past exposure to lead on your ability to have a healthy child. You should also notify your supervisor if you have difficulty breathing during a respirator fit test or while wearing a respirator. In each of these cases the company will make available to you appropriate medical examinations or consultations. These must be provided at no cost to you and at a reasonable time and place.

Exposure Levels:

The company program sets a permissible exposure limit (PEL) of fifty micrograms of lead per cubic meter of air (50 ug/m (3)), averaged over an 8-hour work-day. This is the highest level of lead in air to which you may be permissibly exposed over an 8-hour workday. Since it is an 8-hour average it permits short exposures above the PEL so long as for each 8-hour work day your average exposure does not exceed the PEL.

This company recognizes that your daily exposure to lead can extend beyond a typical 8-hour workday as the result of overtime or other alterations in your work schedule. To deal with this, our program contains the below formula which reduces your permissible exposure when you are exposed more than 8 hours. For example, if you are exposed to lead for 10 hours a day, the maximum permitted average exposure would be 40 ug/m (3).

> **Formula:** Maximum permissible limit (in ug/m (3)) =400 divided by hours worked in the day.

Don-Nan Pump & Supply
Aerial & Scissors Lift Safety Program

Purpose:
The purpose of this section is to outline policies and procedures for the safe operations of scissors lift and aerial lifts operated by Don-Nan Pump & Supply employees. It applies to all operations, programs and locations that require employees to access elevated locations and/or use aerial work platforms; in particular steel erection and inspection.

Definitions:
Aerial Lift – A piece of equipment, extendable and/or articulating, designed to position personnel and/or materials in elevated locations.

ANSI – American National Standards Institute.

Lanyard – ANSI approved line designed for supporting one person, with one end connected to a safety harness and the other end attached to a suitable anchorage able to support 5,400 pounds of force. The anchorage can be a structural steel member, an approved lifeline, or other approved anchorage points.

Full Body Harness – ANSI approved body device designed for fall protection, which by reason of it's attachment to a lanyard and safety line or an approved anchorage point, which will limit a fall to six (6) feet or less.

Fall Protection:
Full body harnesses and lanyards shall only be used, as intended by the manufacturer, for employee fall protection. Appropriate devices shall be used to provide 100% fall protection. The "D" ring on the body harness shall be positioned in the back up between the shoulder blades to minimize impact forces of the body in the event of a fall.

All fall protection equipment shall be carefully inspected prior to each use and periodically throughout the day. Safety equipment showing any signs of mildew, torn or frayed fabric or fiber, burns, excessive wear, or other damage or deterioration which could cause failure shall be permanently removed from service. All fall protection equipment shall be properly maintained and stored when not in use. This includes keeping dry and out of sunlight, away from caustics, corrosives or other materials that could cause defects.

Hard hats and safety harnesses shall be worn by employees in the bucket or platform of any aerial lift device. Other safety personal protective items may be required by either company or client safety policies. High visibility clothing is NOT required for employees, but it is recommended while working in the air.

Consideration must be given to water hazards and appropriate precautions. When 100% fall protection is employed, OSHA water safety standards are not mandated. However it is advisable to take minimum precautions such as readily available buoy and safety line, and a rescue boat.

Equipment:
Aerial lift devices shall conform to ANSI Standards applicable to the type of equipment being used – bucket truck, under-bridge inspection vehicle, portable and/or self-propelled personnel lift. Aerial lift devices shall only be used for the purpose(s) intended by the manufacturer. All manufacturer and maintenance department recommendations and warnings regarding operation, capacity and safety precautions shall be strictly followed. Permanent labeling must be conspicuously posted to indicate lifting capacity and travel height.

Only devices approved for lifting personnel shall be used as aerial lifts. Loaders, forklifts or other material lift devices shall NOT be used to transport employees to elevated locations nor as work platforms. Forklifts and cranes may ONLY be used as a last resort, and then only with approved personnel baskets.

Modifications shall not be made to any aerial lift device without the expressed written authorization from the manufacturer. Buckets and bucket liners shall not be drilled, cut, welded on, etc.

Procedures:
Lift equipment shall be inspected upon delivery to the jobsite, and daily prior to use. The daily inspection will include testing the controls prior to use and all inspections shall be documented on the Aerial Lift Daily Inspection form.

Before extending or raising the boom or platform, outriggers (if so equipped), shall be positioned properly and the lift will be level. Outriggers shall be placed on mud mats or other SOLID surface, and shall not be used to level the vehicle. If the lift is on unleveled ground, the wheels shall be chocked and the parking brake set. Sufficient clearance shall be checked before raising the lift. For under-bridge units, adequate clearance beneath the boom shall be assured.

Employees shall keep both feet on the floor of the bucket or platform at all times. When the lift has to be moved, it shall only be moved when the bucket or platform is at the lowered position. For scissorslifts, this is lowered all the way down, and for aerial lifts, this is lowered to the lowest point that the operator can safely see to drive the vehicle.

Employees are required to wear full body safety harnesses with lanyards. The lanyards shall be attached to an engineered anchorage point inside the lift. Do not wrap the lanyard around a rail and tie back onto itself. Employees are not to anchor on structural members outside of the lift, unless exiting the lift to get on the structural members.

Platform lifts (scissorslifts) shall have a top and mid rail and a kick plate (toe board), along with an engineered anchorage point to tie off. Employees shall not climb nor stand on the mid or top rails, keeping both feet on the floor of the platform.

Tools, parts or any materials shall not be dropped or thrown from the bucket or platform. When using welding or heating equipment from the bucket or platform, the vehicle shall be protected from sparks and slag and special care shall be taken to remove flammable objects away from the lifts.

Electrical Safety:
When working near electrical lines or equipment, avoid direct or indirect contact. Direct contact is body contact. Indirect contact is when the body touches or is in dangerous proximity to any object that is in contact with energized systems. Always assume lines are "live" and carry high voltage. Electrical lines can only be considered "dead" when verified by licensed electricians from the utilities department, and proper lockout and tagout has been performed.

Employees shall not position any aerial lifts closer than ten (10) feet to a power line that carries up to fifty (50) kilovolts. For each kilovolt over 50, add four (4) inches.

Employees are to be trained concerning the hazards and precautions of working near power lines.

Ensure posted warning placards are in place concerning electrical lines.

If the operator is unable to assess the clearances while operating the aerial lift, then a "spotter" must be used to observe the clearances and warn the operator.

Training:
Aerial lift operators shall be trained and certified to use the various lifts on the jobsites.

Training may be obtained from the rental companies supplying the lifts. If not available from the rental companies, contact the Safety Director for training options.

All employees operating lifts shall be issued a Don-Nan Pump & Supply operator’s card, to be carried at all times on their person, when working on a Don-Nan Pump & Supply jobsite. Retraining shall be accomplished annually or when an employee shows a lack of understanding of aerial lift safe operating procedures.

Don-Nan Pump & Supply
Access to Employee Medical and Exposure Record

Purpose

Access to employee medical and exposure records are to be taken very seriously. All guidelines must be followed.

Responsibilities

- Employee medical records are records that concern the health status of an employee and are made or maintained by a physician, nurse, or other health care personnel, or technician.

- "Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician.

- medical records must be preserved for the duration of employment plus 30 years

- employee exposure records could include any of the types of information listed below

  * Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;
  * Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;
  * Material safety data sheets indicating that the material may pose a hazard to human health; or in the absence, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.

- Employee exposure records must be retained for 30 years

- Access to records must be provided in a reasonable time, place, and manner. If access to records cannot reasonably be provided within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or

designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

- Whenever an employee or designated representative requests a copy of a record, that record must be provided at no cost.

- Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), personal identifiers must be removed before access is provided.

- Upon an employee's first entering into employment, and at least annually thereafter, information must be given to current employees of the existence, location, availability and the person responsible for maintaining and providing access to records and each employee's rights of access to these records.

- Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by a specific occupational safety and health standard.

Don-Nan Pump & Supply
Behavior Based Safety

Purpose

Informing on what type of conduct is expected along with the safety and consequences.

Responsibility

- Observing employees' conduct and provide direct, measurable information on employees' work practices identifying both safe and unsafe behaviors.

- This training will include:
  - Program objectives and incident metrics reviewed
  - How to conduct the observation
  - How to complete the observation form
  - What do the behaviors mean
  - Feedback training and role play (mentoring and coaching)
  - Employees should be aware they may be observed at any time

- Upon completion of an observation, the observer is expected to have a discussion with the observed to get feedback.
  The observer will:
  - Review the observation with observed employee
  - Start with a positive comments
  - Reinforce safe behaviors observed first
  - Describe and discuss unsafe behaviors observed
  - Solicit from observed employee explanation of his/her unsafe behavior with open-ended questions
  - Re-emphasize no consequence to observed employee.

- Individual departments, as well as the company as a whole, will compare these measurements and track these results by an acceptable method so that numerical and statistical comparisons can be made over time.

- Once trend analysis is complete, appropriate action plans must be developed to address unsafe behaviors.
  Action planning will include:
  - Evaluate unsafe behaviors from trend analysis and prioritize
  - Develop action plan for unsafe behaviors based on comments and feedback from data sheets

- Designate responsible parties and timeframes within the action plan
- Define who is responsible for action planning
- Ensure management support

Don-Nan Pump & Supply
Confined Space Program

I. OBJECTIVE

The purpose of Don-Nan Pump & Supply Confined Space Program is to set procedures that will ensure workers safe entry into confined spaces and permit-required confined spaces to perform routine tasks associated with their employment. This procedure is designed to provide the minimum safety requirements in accordance with the Occupational Safety and Health Administration's (OSHA) Confined Space Standard, 1910.146.

II. BACKGROUND

A confined space is defined as any location that has limited openings for entry and egress, is not intended for continuous employee occupancy, and is so enclosed that natural ventilation may not reduce air contaminants to levels below the threshold limit value (TLV). Examples of confined spaces include: manholes, stacks, pipes, storage tanks, trailers, tank cars, pits, sumps, hoppers, and bins. Entry into confined spaces without proper precautions could result in injury, impairment, or death due to:

A. an atmosphere that is flammable or explosive;
B. lack of sufficient oxygen to support life;
C. contact with or inhalation of toxic materials; or
D. general safety or work area hazards such as steam or high pressure materials.

III. ASSIGNMENT OF RESPONSIBILITY

A. Employer

In administering this Confined Space Program, Don-Nan Pump & Supply will:

1. Monitor the effectiveness of the program.
2. Provide atmospheric testing and equipment as needed.
3. Provide personal protective equipment as needed.
4. Provide training to affected employees and supervisors.
5. Provide technical assistance as needed.
6. Preview and update the program on at least an annual basis or as needed.
7. Terminating the permit and closing it out after job completion.

B. Program Manager

The Safety Director is responsible for managing the Confined Space Program, and shall:

1. Ensure that a list of confined spaces at all Don-Nan Pump & Supply worksites is maintained.
2. Ensure that canceled permits are reviewed for lessons learned.

3. Ensure training of personnel is conducted and documented.
4. Coordinate with outside responders.
5. Ensure that equipment is in compliance with standards.
6. Ensure that the Supervisor in charge of confined space work shall:

    a. Ensure requirements for entry have been completed before entry is authorized.
    b. Ensure confined space monitoring is performed by personnel qualified and trained in confined space entry procedures.
    c. Ensure a list of monitoring equipment and personnel qualified to operate the equipment is maintained by the Safety and Occupational Health Office.
    d. Ensure that the rescue team has simulated a rescue in a confined space within the past twelve (12) months.
    e. Know the hazards that may be faced during entry, including the mode (how the contaminant gets into the body), signs or symptoms, and consequences of exposure.
    f. Fill out a permit.
    g. Determine the entry requirements.
    h. Require a permit review and signature from the authorized Entry Supervisor.
    i. Notify all involved employees of the permit requirements.
    j. Post the permit in a conspicuous location near the job.
    k. Renew the permit or have it reissued as needed (a new permit is required every shift).
    l. Determine the number of Attendants required to perform the work.
    m. Ensure all Attendant(s) know how to communicate with the entrants and how to obtain assistance.
    n. Post any required barriers and signs.
    o. Remain alert to changing conditions that might affect the conditions of the permits (i.e., require additional atmospheric monitoring or changes in personal protective equipment).
    p. Change and reissue the permit, or issue a new permit as necessary.
    q. Ensure periodic atmospheric monitoring is done according to permit requirements.
    r. Ensure that personnel doing the work and all support personnel adhere to permit requirements.
    s. Ensure the permit is canceled with the work is done.
    t. Ensure the confined space is safely closed and all workers are cleared from the area.
    u. provisions & procedures for pedestrian, vehicle & other barriers as necessary to protect entrants from external hazards & a method for verifying that conditions in the permit space are acceptable for entry during its duration.

C. Entry Supervisors

Team Supervisor shall serve as the Entry Supervisor(s), and shall be qualified and authorized to approve confined space entry permits. The Entry Supervisor(s) shall be responsible for:

1. Determining if conditions are acceptable for entry.
2. Authorizing entry and overseeing entry operations.
3. Terminating entry procedures as required.
4. Serving as an Attendant, as long as the person is trained and equipped appropriately for that role.
5. Ensuring measures are in place to keep unauthorized personnel clear of the area.
6. Checking the work at least twice a shift to verify and document permit requirements are being observed (more frequent checks shall be made if operations or conditions are anticipated that could affect permit requirements).
7. Ensuring that necessary information on chemical hazards is kept at the worksite for the employees or rescue team.
8. Ensuring a rescue team is available and instructed in their rescue duties (i.e., an onsite team or a prearranged outside rescue service).
9. Ensuring the rescue team members have current certification in first aid and cardiopulmonary resuscitation (CPR).

D. Attendants

Qualified personnel shall function as an Attendant(s) and shall be stationed outside of the confined workspace. The Attendant(s) shall:

1. Be knowledgeable of, and be able to recognize potential confined space hazards.
2. Maintain a sign-in/sign-out log with a count of all persons in the confined space, and ensure all entrants sign in and out.
3. Monitor surrounding activities to ensure the safety of personnel.
4. Maintain effective and continuous communication with personnel during confined space entry, work, and exit.
5. Order personnel to evacuate the confined space if he/she:

    a. observes a condition which is not allowed on the entry permit;
    b. notices the entrants acting strangely, possibly as a result of exposure to hazardous substances;
    c. notices a situation outside the confined space which could endanger personnel;
    d. notices a hazard within the confined space that has not been previously recognized or taken into consideration;
    e. must leave his/her work station; or

f. must focus attention on the rescue of personnel in some other confined space that he/she is monitoring.

6. Immediately summon the Rescue Team if crew rescue becomes necessary.
7. Keep unauthorized persons out of the confined space, order them out, or notify authorized personnel of an unauthorized entry.
8. To make this process as safe as possible, Don-Nan Pump & Supply does NOT allow a single attendant to monitor more than one (multiple) confined spaces.
9. The attendant will hold accountability for entrants and keep them in compliance with entry permits. Permits must identify the permit space to be entered, the purpose of the entry, date and authorized duration of the permit and also include name.

Attendants must:
Receive confined space training to safely observe and support entrants from outside of confined spaces; prevent entry by unauthorized personnel; understand the hazards or potential hazards of confined spaces; maintain accurate count of authorized entrant(s) in the space; continually observe and communicate with entrants to help ensure the safety of entrants, being on the alert for any signs or symptoms that might indicate hazardous conditions; monitor activities inside and outside the space to ensure that it is safe for entrants to remain in the area; remain at the entry of a confined space until relieved by another attendant; order entrant(s) evacuation if any prohibited or hazardous conditions develop during the entry:

1. Perform a non-entry rescue and/or summon rescue in the event of entrant incapacitation.
2. Ensure that at least one attendant is stationed outside the permit space for the duration of entry operations. Coordinate entry operations when employees of more than one employer are working in the permit space. This will help to not endanger our employees or that of an employer. Typically, the Entry Supervisor does this.

E. Rescue Team

The Rescue Team members shall:

1. Complete a training drill using mannequins or personnel in a simulation of the confined space prior to the issuance of an entry permit for any confined space and at least annually thereafter.
2. Respond immediately to rescue calls from the Attendant or any other person recognizing a need for rescue from the confined space.
3. In addition to emergency response training, receive the same training as that required of the authorized entrants.
4. Have current certification in first aid and CPR.

F. Entrants/Affected Employees

Employees who are granted permission to enter a confined space shall:

1. Read and observe the entry permit requirements.
2. Remain alert to the hazards that could be encountered while in the confined space.
3. Properly use the personal protective equipment that is required by the permit.
4. Immediately exit the confined space when:

    a. they are ordered to do so by an authorized person;
    b. they notice or recognize signs or symptoms of exposure;
    c. a prohibited condition exists; or
    d. the automatic alarm system sounds.

5. Alert Attendant(s) when a prohibited condition exists and/or when warning signs or symptoms of exposure exist.

IV. TRAINING

Don-Nan Pump & Supply shall provide training so that all employees whose work is regulated by this Confined Space Program acquire the understanding, knowledge, and skills necessary for the safe performance of their duties in confined spaces.

A. Training Frequency

Responsible Person shall provide training to each affected employee:

1. before the employee is first assigned duties within a confined space;
2. before there is a change in assigned duties;
3. when there is a change in permit space operations that presents a hazard for which an employee has not been trained; and
4. when Don-Nan Pump & Supply has reason to believe that there are deviations from the confined space entry procedures required in this program, or that there are inadequacies in the employee's knowledge or use of these procedures.
5. Understand that they are entitled to request additional monitoring at any time. Employees, or their representatives, are entitled to request the space be re-evaluated.

The training shall establish employee proficiency in the duties required in this program, and shall introduce new or revised procedures within one year or, as necessary, for compliance with this program.

B. General Training

All employees who will enter confined spaces shall be trained in entry procedures. Personnel responsible for supervising, planning, entering, or participating in confined space entry and rescue shall be adequately trained in their functional duties prior to any confined space entry. Training shall include:

1. Explanation of the general hazards associated with confined spaces.
2. Discussion of specific confined space hazards associated with the facility, location, or operation.
3. Reason for, proper use, and limitations of personal protective equipment and other safety equipment required for entry into confined spaces.
4. Explanation of permits and other procedural requirements for conducting a confined space entry.
5. A clear understanding of what conditions would prohibit entry.
6. Procedures for responding to emergencies.
7. Duties and responsibilities of the confined space entry team.
8. Description of how to recognize symptoms of overexposure to probable air contaminants in themselves and co-workers, and method(s) for alerting the Attendant(s).

Refresher training shall be conducted as needed to maintain employee competence in entry procedures and precautions.

C. Specific Training

1. Training for atmospheric monitoring personnel shall include proper use of monitoring instruments, including instruction on the following:

    a. proper use of the equipment;
    b. calibration of equipment;
    c. sampling strategies and techniques; and
    d. exposure limits (PELs, TLVs, LELs, UELs, etc.).

2. Training for Attendants shall include the following:

    a. procedures for summoning rescue or other emergency services; and
    b. proper utilization of equipment used for communicating with entry and emergency/rescue personnel.

3. Training for Emergency Response Personnel shall include:

    a. rescue plan and procedures developed for each type of confined space that is anticipated to be encountered;
    b. use of emergency rescue equipment;

c. first aid and CPR techniques; and
d. work location and confined space configuration to minimize response time.

D. Verification of Training

Periodic assessment of the effectiveness of employee training shall be conducted by the Safety Director. Training sessions shall be repeated as often as necessary to maintain an acceptable level of personnel competence.

V. IDENTIFICATION OF HAZARDS AND EVALUATION OF CONFINED SPACES

A. Survey

Compliance Manager shall ensure a survey of the worksite is conducted to identify confined spaces. This survey can be partially completed from initial and continuing site characterizations, as well as other available data (i.e., blueprints and job safety analyses). The purpose of the survey is to develop an inventory of those locations and/or equipment at Don-Nan Pump & Supply that meet the definition of a confined space. This information shall be communicated to personnel, and appropriate confined space procedures shall be followed prior to entry. The initial surveys shall include air monitoring to determine the air quality in the confined spaces. The potential for the following situations shall be evaluated by Compliance Manager:

1. flammable or explosive potential;
2. oxygen deficiency; and
3. presence of toxic and corrosive material.

B. Hazard Reevaluation

The Compliance Manager shall identify and reevaluate hazards based on possible changes in activities or other physical or environmental conditions that could adversely affect work. A master inventory of confined spaces shall be maintained. Any change in designation of a confined space will be routed to all affected personnel by Compliance Manager.

C. Pre-Entry Hazard Assessment

A hazard assessment shall be completed by Safety Officer prior to any entry into a confined space. The hazard assessment should identify:

1. the sequence of work to be performed in the confined space;
2. the specific hazards known or anticipated; and
3. the control measures to be implemented to eliminate or reduce each of the hazards to an acceptable level.

No entry shall be permitted until the hazard assessment has been reviewed and discussed by all persons engaged in the activity. Personnel who are to enter confined spaces shall be informed of known or potential hazards associated with said confined spaces.

D. Hazard Controls

Hazard controls shall be instituted to address changes in the work processes and/or working environment. Hazard controls must be able to either control the health hazards by eliminating the responsible agents, reduce health hazards below harmful levels, or prevent the contaminants from coming into contact with the workers.

The following order of precedence shall be followed in reducing confined space risks.

1. Engineering Controls

Engineering controls are those controls that eliminate or reduce the hazard through implementation of sound engineering practices.

Ventilation is one of the most common engineering controls used in confined spaces. When ventilation is used to remove atmospheric contaminants from a confined space, the space shall be ventilated until the atmosphere is within the acceptable ranges. Ventilation shall be maintained during the occupancy if there is a potential for the atmospheric conditions to move out of the acceptable range. When ventilation is not possible or feasible, alternate protective measures or methods to remove air contaminants and protect occupants shall be determined by Safety Officer prior to authorizing entry.

When conditions necessitate and can accommodate continuous forced air ventilation, the following precautions shall be followed:

a. Employees shall not enter the space until the forced air ventilation has eliminated any hazardous atmosphere.
b. Forced air ventilation shall be directed so as to ventilate the immediate areas where an employee is or will be present within the space.
c. Continuous ventilation shall be maintained until all employees have left the space.
d. Air supply or forced air ventilation shall originate from a clean source.
e. Testing should be conducted prior to each confined space entry and the atmosphere should be periodically tested as necessary to determine that acceptable entry conditions are maintained during entry operations. Continuous monitoring during entry is the recommended practice. Monitoring of the space must inform the entrants of potential hazards and results, they must also participate in the permit review and signing. Ventilation must be used and testing must be conducted before entry & during work.

2. Work Practice (Administrative) Controls

Work practice (administrative) controls are those controls which eliminate or reduce the hazard through changes in the work practices (i.e., rotating workers, reducing the amount of worker exposure, and housekeeping).

3. Personal Protective Equipment (PPE)

If the hazard cannot be eliminated or reduced to a safe level through engineering and/or work practice controls, PPE should be used. Compliance Manager shall determine the appropriate PPE needed by all personnel entering the confined space, including rescue teams. PPE that meets the specifications of applicable standards shall be selected in accordance with the requirements of the job to be performed.

VI. ENTRY PERMITS

The Confined Space Entry Permit is the most essential tool for assuring safety during entry in confined spaces with known hazards, or with unknown or potentially hazardous atmospheres. The entry permit process guides the supervisor and workers through a systematic evaluation of the space to be entered. The permit should be used to establish appropriate conditions. Before each entry into a confined space, an entry permit will be completed by Safety Officer. The team supervisor will then communicate the contents of the permit to all employees involved in the operation, and post the permit conspicuously near the work location. A standard entry permit shall be used for all entries.

A. Key Elements of Entry Permits

A standard entry permit shall contain the following items:

1. Space to be entered.
2. Purpose of entry.
3. Date and authorized duration of the entry permit.
4. Name of authorized entrants within the permit space.
5. Means of identifying authorized entrants inside the permit space (i.e., rosters or tracking systems).
6. Name(s) of personnel serving as Attendant(s) for the permit duration.
7. Name of individual serving as Entry Supervisor, with a space for the signature or initials of the Entry Supervisor who originally authorized the entry.
8. Hazards of the permit space to be entered.
9. Measures used to isolate the permit space and to eliminate or control permit space hazards before entry (i.e., lockout/tagout of equipment and procedures for purging, ventilating, and flushing permit spaces).
10. Acceptable entry conditions.

11. Results of initial and periodic tests performed, accompanied by the names or initials of the testers and the date(s) when the tests were performed.
12. Rescue and emergency services that can be summoned, and the means of contacting those services (i.e., equipment to use, phone numbers to call).
13. Communication procedures used by authorized entrants and Attendant(s) to maintain contact during the entry.
14. Equipment to be provided for compliance with this Confined Space Program (i.e., PPE, testing, communications, alarm systems, and rescue).
15. Other information necessary for the circumstances of the particular confined space that will help ensure employee safety.
16. Additional permits, such as for hot work, that has been issued to authorize work on the permit space.

B. Permit Scope and Duration

A permit is only valid for one shift. For a permit to be renewed, the following conditions shall be met before each reentry into the confined space:

1. Atmospheric testing shall be conducted and the results should be within acceptable limits. If atmospheric test results are not within acceptable limits, precautions to protect entrants against the hazards should be addressed on the permit and should be in place.
2. Safety Officer shall verify that all precautions and other measures called for on the permit are still in effect.
3. Only operations or work originally approved on the permit shall be conducted in the confined space.

A new permit shall be issued, or the original permit will be reissued if possible, whenever changing work conditions or work activities introduce new hazards into the confined space. Compliance Manager shall retain each canceled entry permit for at least one (1) year to facilitate the review of the Confined Space Entry Program. Any problems encountered during an entry operation shall be noted on the respective permit(s) so that appropriate revisions to the confined space permit program can be made.

VII. ENTRY PROCEDURES

When entry into a confined space is necessary, either the Entry Supervisor or Safety Officer may initiate entry procedures, including the completion of a confined space entry permit. Entry into a confined space shall follow the standard entry procedure below.

A. Prior to Entry

The entire confined space entry permit shall be completed before a standard entry. Entry shall be allowed only when all requirements of the permit are met and it is reviewed and signed by an Entry Supervisor. The following conditions must be met prior to standard entry:

1. Affected personnel shall be trained to establish proficiency in the duties that will be performed within the confined space.
2. The internal atmosphere within the confined space shall be tested by Safety Officer with a calibrated, direct-reading instrument.
3. Personnel shall be provided with necessary PPE as determined by the Entry Supervisor.
4. Atmospheric monitoring shall take place during the entry. If a hazardous atmosphere is detected during entry:

    a. personnel within the confined space shall be evacuated by the Attendant(s) or Entry Supervisor until the space can be evaluated by Safety Officer to determine how the hazardous atmosphere developed; and
    b. controls shall be put in place to protect employees before reentry.

B. Opening a Confined Space

Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent anyone from falling through the opening. This barrier or cover shall protect each employee working in the space from foreign objects entering the space. If it is in a traffic area, adequate barriers shall be erected.

C. Atmospheric Testing

Atmospheric test data is required prior to entry into a confined space. Atmospheric testing is required for two distinct purposes: (1) evaluation of the hazards of the permit space, and (2) verification that acceptable conditions exist for entry into that space. If a person must go into the space to obtain the needed data, then Standard Confined Space Entry Procedures shall be followed. Before entry into a confined space, Safety Officer shall conduct testing for hazardous atmospheres. The internal atmosphere shall be tested with a calibrated, direct-reading instrument for oxygen, flammable gases and vapors, and potential toxic air contaminants, in that order.

Testing equipment used in specialty areas shall be listed or approved for use in such areas by Safety Manager. All testing equipment shall be approved by a nationally recognized laboratory, such as Underwriters Laboratories or Factory Mutual Systems.

1. Evaluation Testing

The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity. The analysis shall identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that

space. Evaluation and interpretation of these data and development of the entry procedure should involve a technically qualified professional (i.e., consultant, certified industrial hygienist, registered safety engineer, or certified safety professional).

2. Verification Testing

A confined space that may contain a hazardous atmosphere shall be tested for residues of all identified or suspected contaminants. The evaluation testing should be conducted with specified equipment to determine that residual concentrations at the time or testing and entry are within acceptable limits. Results of testing shall be recorded by the person performing the tests on the permit. The atmosphere shall be periodically retested (frequency to be determined by Safety Officer to verify that atmospheric conditions remain within acceptable entry parameters.

3. Acceptable Limits

The atmosphere of the confined spaces shall be considered to be within acceptable limits when the following conditions are maintained:

a. oxygen: 19.5 percent to 23.5 percent;
b. flammability: less than 10 percent of the Lower Flammable Limit (LFL); and
c. toxicity: less than recognized American Conference of Governmental Industrial Hygienists (ACGIH) exposure limits or other published exposure levels [i.e., OSHA Permissible Exposure Limits (PELs) or National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs)].

D. Isolation and Lockout/Tagout Safeguards

All energy sources that are potentially hazardous to confined space entrants shall be secured, relieved, disconnected, and/or restrained before personnel are permitted to enter the confined space. Equipment systems or processes shall be locked out and/or tagged out as required by the Don-Nan Pump & Supply Lockout/Tagout Program [which complies with OSHA's 29 CFR 1910-147 and American National Standards Institute (ANSI) Z244.1-1982, Lockout/Tagout of Energy Sources] prior to permitting entry into the confined space. In confined spaces where complete isolation is not possible, Safety Manager shall evaluate the situation and make provisions for as rigorous an isolation as practical. Special precautions shall be taken when entering double-walled, jacketed, or internally insulated confined spaces that may discharge hazardous material through the vessel's internal wall.

Where there is a need to test, position, or activate equipment by temporarily removing the lock or tag or both, a procedure shall be developed and implemented to control hazards to

the occupants. Any removal of locks, tags, or other protective measures shall be done in accordance with the Don-Nan Pump & Supply Lockout/Tagout Program.

E. Ingress/Egress Safeguards

Means for safe entry and exit shall be provided for confined spaces. Each entry and exit points shall be evaluated by Safety Officer to determine the most effective methods and equipment that will enable employees to safely enter and exit the confined space.

Rescue services must be either:
1. Provided by the host facility, or
2. Provided by an outside service which is given an opportunity to examine the entry site, practice rescue, and decline as appropriate, or
3. Provided by the employer by selecting a rescue team that is equipped and trained to perform the needed rescue services.
4. Rescue service must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.

Appropriate retrieval equipment or methods shall be used whenever a person enters a confined space. Use of retrieval equipment may be waived by the Safety Manager if use of the equipment increases the overall risks of entry or does not contribute to the rescue. A mechanical device shall be available to retrieve personnel from vertical confined spaces greater than five (5) feet in depth.

F. Warning Signs and Symbols

All confined spaces that could be inadvertently entered shall have signs identifying them as confined spaces. Signs shall be maintained in a legible condition. The signs shall contain a warning that a permit is required before entry. Accesses to all confined spaces shall be prominently marked.

VIII. EMERGENCY RESPONSE

A. Emergency Response Plan

Compliance Manager shall maintain a written plan of action that has provisions for conducting a timely rescue of individuals within a confined space, should an emergency arise. The written plan shall be kept onsite where the confined space work is being conducted. All affected personnel shall be trained on the Emergency Response Plan.

B. Retrieval Systems and Methods of Non-Entry Rescue

Retrieval systems shall be available and ready when an authorized person enters a permit space, unless such equipment increases the overall risk of entry, or the equipment would not contribute to the rescue of the entrant. Retrieval systems shall have a chest or full-body harness and a retrieval line attached at the center of the back near shoulder level or

above the head. If harnesses are not feasible, or would create a greater hazard, wristlets may be used in lieu of the harness. The retrieval line shall be firmly fastened outside the space so that rescue can begin as soon as anyone is aware that retrieval is necessary. A mechanical device shall be available to retrieve personnel from vertical confined spaces more than five (5) feet deep.

ATTACHMENT

Sample Process Duty Roster

Process: Tank Steam/Wash Rack	
Entry Supervisor	**Entrants**
1. Upon receipt of a tank for cleaning, do a visible check for product. If product is visible in the tank, then the tank will be refused. 2. Complete and attach certification and danger tag to tank. 3. Provide confined space entry permit for the tank. 4. Verify that entrants have proper training and knowledge of known hazards, including the mode of exposure (how it gets into the body), signs or symptoms, and results of exposure.	1. Purge tanks with cold water prior to steam cleaning. 2. Obtain the confined space entry permit and authorized signature. 3. Complete a safe entry checklist prior to entering the confined space. 4. Fill out and attach the caution tag after tank is purged and cleaned. 5. Know space hazards, including information on the mode of exposure (how it gets into the body), signs or symptoms, and results of exposure. 6. Use the correct personal protective equipment (PPE) properly. 7. Maintain communication with standby person to enable them to monitor entrant's actions and alert the entrant to evacuate if necessary. 8. Exit from permit space as soon as possible: when ordered to by authorized persons; when entrant notices or recognizes the signs or symptoms of exposure; when a prohibited condition exists; and/or when the automatic alarm system sounds. 9. Alert the standby person when a prohibited condition exists and/or when

	warning signs or symptoms of exposure exist.
Process: Tank Maintenance	
Entry Supervisor	**Entrants**
1. Upon receipt of a tank for maintenance, do a visible check for product. If product is visible in the tank, then the tank will be refused. 2. Complete and attach certification and danger tag to tank. 3. Provide confined space entry permit for the tank. 4. Verify that entrants have proper training and knowledge of known hazards, including the mode of exposure (how it gets into the body), signs or symptoms, and the results of exposure.	1. Prior to moving any tank into the maintenance bay, ensure tank has been cleaned and/or purged per attached caution tag, test atmosphere, and record results on hot tag. (Tank will not be moved into bay until the atmosphere has been tested and is determined to be within acceptable limits.) 2. In bay, if work will require confined space entry, obtain confined space entry permit from the Service Writer. 3. Obtain the confined space entry permit and the authorized signatures. 4. Complete the safe entry checklist prior to confined space entry. 5. Know space hazards, including information on the mode of exposure (how it gets into the body), signs or symptoms, and results of exposure. 6. Use the correct personal protective equipment (PPE) properly. 7. Maintain communication with standby person to enable them to monitor the entrant's actions and alert the entrant to evacuate if necessary. 8. Exit from permit space as soon as possible: when ordered to by authorized

	persons; when entrant notices or recognizes signs or symptoms of exposure; when a prohibited condition exists; and/or when the automatic alarm system sounds. 9. Alert the standby person when a prohibited condition exists and/or when warning signs or symptoms of exposure exist.

Don-Nan Pump & Supply
Gas Hazards

Purpose

To inform the employee on the measures needed to be taken concerning gas hazards.

Responsibilities

- Gas hazard awareness training must be provided before initial assignment and annually thereafter.

- Gas Hazard Awareness training should include at a minimum:
  a. Locations of alarm stations
  b. Gas Monitoring Equipment- Portable and Fixed Detection
  c. Gas Alarms
  d. Gas Hazards- Characteristics of gases, to include oxygen deficiency, oxygen or nitrogen enrichment, carbon monoxide and hydrogen sulfide at a minimum. Hazard training must also include any plant or department specific gases of concern. Training must include signs and symptoms of overexposure
  e. Personnel Rescue Procedures
  f. Use and care of Self-Contained Breathing Apparatus (SCBA)- includes donning and emergency procedures (if applicable)
  g. Evacuation Procedures
  h. Staging Areas – Primary and Secondary

- Gas Hazard Awareness training should be documented and available for review.

- Each employee shall use a portable gas detector as required in all high gas hazard areas.

- The gas monitor must be calibrated per manufacturer's recommendations and contain a current calibration sticker on the monitor providing the date of calibration.

- Bump test are required to be completed at the beginning of each day the monitor is in use per the requesting owner client and manufacturer's guidelines to ensure the monitor is functioning correctly.

- Employees will be aware of the owners contingency plan provisions including evacuation routes and alarms. Employees should participate in emergency evacuation drills and practice rescue procedures.

Don-Nan Pump & Supply
Hazard Identification & Risk Management

Purpose

To inform the employee on how to identify a hazard and risk management.

Responsibilities

- Processes are in place to identify potential hazards by the use of JSA's, JHA's, facility wide or area specific analysis/inspections.

- Provides processes to ensure employees and/or sub-contractors are actively involved in the hazard identification process and hazards are reviewed with all employees concerned.

- The hazard identification process is used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable.

- Identify hazards as classified/prioritized and addressed based on the risk associated with the task / (Risk analysis matrix outlining severity and probability).

- Identified hazards are addressed and mitigated. This can be accomplished by dedicated assignment, appropriate documentation of completion, and implemented controls.

- Employees will be trained in the hazard identification process including the use and care of proper PPE.

Don-Nan Pump & Supply
Short Service Employee (SSE)

Purpose

Addressing the concerns and rules of a Short Service Employee (SSE).

Responsibilities

- The time frame under which an employee is considered a Short Service Employee is 6 months. This definition should take into account experience in the same job with his/her present employer rather than total work experience.

- A single person crew cannot be an SSE and crew sizes of less than five shall have no more than one SSE.

- Prior to the job mobilization, contractors will communicate/notify the project coordinator, contractor contact, or on-site supervisor for all jobs containing SSE personnel. The project coordinator, contractor contact, or on-site supervisor will determine approval status of the crew makeup.

- SSE personnel shall be visibly identified with a Don-Nan Pump & Supply t-shirt or other clothing that is differentiated.

- Contractors shall monitor their employees, including SSE personnel, for HES awareness. If, at the end of the designated time period, the SSE has worked safely, adhered to HES policies and has no recordable incident attributed to him/her, the SSE identifier may be removed at the contractor's discretion. Contractor shall require any employee that does not complete the designated time period recordable free to get operator approval in writing prior to returning to operator property.

- Contractor must have in place some form of mentoring process, acceptable to the operator, designed to provide guidance and development for SSE personnel. A mentor can only be assigned one SSE per crew and the mentor must be onsite with the SSE to be able to monitor the SSE.

- If using a subcontractor, contractors will manage their sub-contractors in alignment with this process.

Don-Nan Pump & Supply
Excavation & Trenching

PURPOSE

This program outlines procedures and guidelines for the protection of employees working in and around excavations and trenches. This program requires compliance with OSHA Standards described in Subpart P (CFR 1926.650) for the construction industry.

Compliance is mandatory to ensure employee protection when working in or around excavations. The programs in this manual on confined space, hazard communication, lock-out/tag-out, respiratory protection, and any other safety programs or procedures deemed essential for employee protection, are to be used in conjunction with this program.

SCOPE

This program pertains to all company projects that require any excavations or trenches.

REFERENCES

* 29 CFR 1926.650, Subpart P - Excavations
* Excavation Equipment Manufacturer Safety Procedures

RESPONSIBILITIES

It is the responsibility of each superintendent and supervisor to implement and maintain the procedures and steps set forth in this program. Each employee involved with excavation and trenching work is responsible to comply with all applicable safety procedures and requirements of this program.

DEFINITIONS

BENCHING - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

CAVE-IN - The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by failing or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

COMPETENT PERSON - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

DURATION OF EXPOSURE - The longer an excavation is open, the longer the other factors have to work on causing it to collapse.

EXCAVATION - Any man-made cut, trench, or depression in an earth surface, formed by earth removal.

HAZARDOUS ATMOSPHERE - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

PROTECTIVE SYSTEM - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide necessary protection.

SHIELD - A structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. All shields must be in accordance with 29 CFR 1926.652(c)3 or (c)4.

SLOPING - A method of protecting workers from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences such as soil type, length of exposure, and application of surcharge loads.

SURCHARGE LOADS - Generated by the weight of anything in proximity to the excavation, push starts for a cave-in (anything up top pushing down). Common surcharge loads:

* weight of spoil pile
* weight of nearby buildings, poles, pavement, or other structural objects.
* weight of material and equipment

TRENCH - A narrow excavation below the surface of the ground, less than 15 feet wide, with a depth no greater than the width.

UNDERMINING - Undermining can be caused by such things as leaking, leaching, caving or over-digging. Undermined walls can be very dangerous.

VIBRATION - A force that is present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

Hazards

One of the reasons the company requires a competent person on-site during excavation & trenching are the numerous potential hazardous that may be encountered or created. Hazards include:

Electrocution
Gas Explosion
Entrapment

Struck by equipment
Suffocation

Hazard Controls

Before any work is performed and before any employees enter the excavation, a number of items must be checked and insured:

* Before any excavation, underground installations must be determined. This can be accomplished by either contacting the local utility companies or the local "one-call' center for the area. All underground utility locations must be documented on the proper forms. All overhead hazards (surface encumbrances) that create a hazard to employees must be removed or supported to eliminate the hazard.
* If the excavation is to be over 20 feet deep, it must be designed by a registered professional engineer who is registered in the state where work will be performed.
* Adequate protective systems will be utilized to protect employees. This can be accomplished through sloping, shoring, or shielding.
* The worksite must be analyzed in order to design adequate protection systems and prevent cave-ins. There must also be an excavation safety plan developed to protect employees.
* Workers must be supplied with and wear any personal protective equipment deemed necessary to assure their protection.
* All spoil piles will be stored a minimum of four (4) feet from the sides of the excavation. The spoil pile must not block the safe means of egress.
* If a trench or excavation is 4 feet or deeper, stairways, ramps, or ladders will be used as a safe means of access and egress. For trenches, the employee must not have to travel any more than 25 feet of lateral travel to reach the stairway, ramp, or ladder.
* No employee will work in an excavation where water is accumulating unless adequate measures are used to protect the employees.
* A competent person will inspect all excavations and trenches daily, prior to employee exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate any and all hazards.
* Excavations and trenches 4 feet or deeper that have the potential for toxic substances or hazardous atmospheres will be tested at least daily. If the atmosphere is inadequate, protective systems will be utilized.
* If work is in or around traffic, employees must be supplied with and wear orange reflective vests. Signs and barricades must be utilized to ensure the safety of employees, vehicular traffic, and pedestrians.

COMPETENT PERSON RESPONSIBILITIES

The OSHA Standards require that the competent person must be capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and have

authorization to take prompt corrective measures to eliminate them and, if necessary, to stop the work.

A competent person is required to:

* Have a complete understanding of the applicable safety standards and any other data provided.
* Employees should not work under loads of digging equipment where loads may fall.
* Assure the proper locations of underground installations or utilities, and that the proper utility companies have been contacted.
* Conduct soil classification tests and reclassify soil after any condition changes.
* Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.
* Conduct all air monitoring for potential hazardous atmospheres.
* Conduct daily and periodic inspections of excavations and trenches by a competent person.
* Approve design of structural ramps, if used.

EXCAVATION SAFETY PLAN

An excavation safety plan is required in written form. This plan is to be developed to the level necessary to insure complete compliance with the OSHA Excavation Safety Standard and state and local safety standards.

Excavation safety plan factors:

* Utilization of the local one-call system
* Provide handrails and/or guardrails to prevent falls
* Determination of locations of all underground utilities
* Consideration of confined space atmosphere potential
* Proper soil protection systems and personal protective equipment and clothing
* Determination of soil composition and classification
* Determination of surface and subsurface water
* Depth of excavation and length of time it will remain open
* Proper adherence to all OSHA Standards, this excavation and trenching safety program, and any other coinciding safety programs.

SOIL CLASSIFICATION AND IDENTIFICATION

The OSHA Standards define soil classifications within the Simplified Soil Classification Systems, which consist of four categories: Stable rock, Type A, Type B, and Type C. Stability is greatest in stable rock and decreases through Type A and B to Type C, which is the least stable. Appendix A of the Standard provides soil mechanics terms and types of field tests used to determine soil classifications.

Stable rock is defined as natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Type A soil is defined as:

* Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (TSF) or greater.
* Cemented soils like caliche and hardpan are considered Type A.

Soil is NOT Type A if:

* It is fissured.
* The soil is subject to vibration from heavy traffic, pile driving or similar effects.
* The soil has been previously disturbed.
* The material is subject to other factors that would require it to be classified as a less stable material.
* The exclusions for Type A most generally eliminate it from most construction situations.

Type B soil is defined as:

* Cohesive soil with an unconfined compressive strength greater than .5 TSF, but less than 1.5 TSF.
* Granular cohesionless soil including angular gravel, silt, silt loam, and sandy loam.
* The soil has been previously disturbed except that soil classified as Type C soil.
* Soil that meets the unconfined compressive strength requirements of Type A soil, but is fissured or subject to vibration.
* Dry rock that is unstable.

Type C soil is defined as:

* Cohesive soil with an unconfined compressive strength of .5 TSF or less.
* Granular soils including gravel, sand and loamy sand.
* Submerged soil or soil from which water is freely seeping.
* Submerged rock that is not stable.

Soil Test & Identification

The competent person will classify the soil type in accordance with the definitions in Appendix A on the basis of at least one visual and one manual analysis. These tests should be run on freshly excavated samples from the excavation and are designed to determine stability based on a number of criteria: the cohesiveness, the presence of fissures, the presence and amount of water, the unconfined compressive strength, the duration of exposure, undermining, and the presence of layering, prior excavation and vibration.

The cohesion tests are based on methods to determine the presence of clay. Clay, silt, and sand are size classifications, with clay being the smallest sized particles,

silt intermediate and sand the largest. Clay minerals exhibit good cohesion and plasticity (can be molded). Sand exhibits no elasticity and virtually no cohesion unless surface wetting is present. The degree of cohesiveness and plasticity depend on the amounts of all three types and water.

When examining the soil, three questions must be asked: Is the sample granular or cohesive? Fissured or non-fissured? What is the unconfined compressive strength measured in TSF?

Methods of testing soils:

* Visual test: If the excavated soil is in clumps, it is cohesive. If it breaks up easily, not staying in clumps, it is granular.
* Wet manual test: Wet your fingers and work the soil between them. Clay is a slick paste when wet, meaning it is cohesive. If the clump falls apart in grains, it is granular.
* Dry strength test: Try to crumble the sample in your hands with your fingers. If it crumbles into grains, it is granular. Clay will not crumble into grains, only into smaller chunks.
* Pocket penetrometer test: This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it is read. The reading is calibrated in tons per square foot (TSF) or kilograms per cubic centimeter.
* Thumb penetration teal: The competent person attempts to penetrate a fresh sample with thumb pressure. If the sample can be dented, but penetrated only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded.
* Shearvane: Measures the approximate shear strength of saturated cohesive soils. The blades of the vane are pressed into a flat section of undisturbed soil, and the knob is turned slowly until soil failure. The dial is read directly when using the standard vane. The results will be in tons per square foot or kilograms per cubic centimeter.

The competent person will perform several tests of the excavation to obtain consistent, supporting data along its depth and length. The soil is subject to change several times within the scope of an excavation and the moisture content will vary with weather and job conditions. The competent person must also determine the level of protection based on what conditions exist at the time of the test, and allow for changing conditions.

EXCAVATION PROTECTION SYSTEMS

The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields.

The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted

to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.

* Exceptions to using protective system:
* Excavations are made entirely in stable rock
* Excavations are less than 5 feet deep and declared safe by a competent person

SLOPING AND BENCHING SYSTEMS

There are four options for sloping:

* Slope to the angle required by the Standard for Type C, which is the most unstable soil type.
* The table provided in Appendix B of the Standard may be used to determine the maximum allowable angle (after determining the soil type).
* Tabulated data prepared by a registered professional engineer can be utilized.
* A registered professional engineer can design a sloping plan for a specific job.

Sloping and benching systems for excavations five (5) to twenty (20) feet in depth must be constructed under the instruction of a designated competent person.

Sloping and benching systems for excavations greater than twenty (20) feet must be designed and stamped by a registered professional engineer.

Sloping and benching specifications can be found in Appendix B of the OSHA Standard (Subpart P).

SHORING SYSTEMS

Shoring is another protective system or support system. Shoring utilizes a framework of vertical members (uprights), horizontal members (whales), and cross braces to support the sides of the excavation to prevent a cave-in. Metal hydraulic, mechanical or timber shoring is common examples.

The different examples of shoring are found in the OSHA Standard under these appendices:

APPENDIX C - Timber Shoring for Trenches

APPENDIX D - Aluminum Hydraulic Shoring for Trenches

APPENDIX E - Alternatives to Timber Shoring

SHIELD SYSTEMS (Trench Boxes)

Shielding is the third method of providing a safe workplace. Unlike sloping and shoring, shielding does not prevent a cave-in. Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure. Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces.

Shielding design and construction is not covered in the OSHA Standards. Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the

manufacturer on file at the jobsite office. **ANY REPAIRS OR MODIFICATIONS MUST BE APPROVED BY THE MANUFACTURER.**

SAFETY PRECAUTIONS FOR SHIELD SYSTEMS

* Shields must not have any lateral movement when installed.
* Employees will be protected from cave-ins when entering and exiting the shield (examples - ladder within the shield or a properly sloped ramp at the end).
* Employees are not allowed in the shield during installation, removal, or during any vertical movement.
* Shields can be 2 ft. above the bottom of an excavation if they are designed to resist loads at the full depth and if there are no indications of caving under or behind the shield.
* The shield must extend at least 18 inches above the point where proper sloping begins (the height of the shield must be greater than the depth of the excavation).
* The open end of the shield must be protected from the exposed excavation wall. The wall must be sloped, shored, or shielded. Engineer designed end plates can be mounted on the ends of the shield to prevent cave-ins.

PERSONAL PROTECTIVE EQUIPMENT

It is **company** policy to wear a hard hat, safety glasses, and work boots on the jobsite. Because of the hazards involved with excavations, other personal protective equipment may be necessary, depending on the potential hazards present (examples -goggles, gloves, and respiratory equipment).

INSPECTIONS

Daily inspection of excavations, the adjacent areas and protective systems shall be made by the competent person for evidence of a situation that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.

* All inspections shall be conducted by the competent person prior to the start of work and as needed throughout the shift.
* Inspections will be made after every rainstorm or any other increasing hazard.
* All documented inspections will be kept on file in the jobsite safety files and forwarded to the Safety Director weekly.
* A copy of the Daily Excavation Inspection form is located at the end of this program.

TRAINING

The competent person(s) must be trained in accordance with the OSHA Excavation Standard, and all other programs that may apply (examples Hazard Communication, Confined Space, and Respiratory Protection), and must demonstrate a thorough understanding and knowledge of the programs and the hazards associated.

All other employees working in and around the excavation must be trained in the recognition of hazards associated with trenching and excavating.

Don-Nan Pump & Supply
Fatigue Management

Purpose:

To relieve employees when fatigue sets in and to also prevent as much fatigue as possible.

Responsibility:

When a new employee joins the Don-Nan team, he/she will undergo training that will stress the importance of fatigue management. As well as initial training, the employee will also undergo annual training to understand the severities of becoming fatigued. Training includes how to recognize fatigue, how to control fatigue through appropriate work and personal habits, staying hydrated, and reporting of fatigue to supervision.

To address fatigue management, Don-Nan Pump & Supply has set work hour limitation. Don-Nan Pump & Supply also makes breaks mandatory for employees, especially those which are outside and effected by the weather. We also use job rotation among employees to help control worker fatigue.

Ergonomic equipment is used for all employee workstations such as lumbar supportive chairs, anti-fatigue mats for standing employees, proper lighting and control of temperature, lift assist devices for heavy machinery and objects, as well as other ergonomic devices as deemed appropriate for each and every employee.

Work tasks are examined of each employee in the company and exactly what their position entails. This includes JSA's (job safety analysis) which are analyzed and evaluated periodically. Fatigue is measured and changes are made due to the findings.

Once the tasks of the employee and the work hour limitations have been analyzed and set, break times are given to the employee based upon these findings. Chairs are located around each office and/or building for workers to sit periodically to provide periodic rest breaks. Water is also located at each station.

Any employee in a supervisory role, such as management, is responsible for their employees' well-being, to make safety critical decisions and to take appropriate actions to prevent loss. Supervisors must take responsibility and observe and report employee fatigue/tiredness and lack of mental acuity.

If an employee is using over-the-counter prescription drugs, prescription drugs, or any other product which may affect an employee's ability to perform their work safely, this must be reported to their supervisor. Employees must not chronically use any of these substances if they

decrease their mental alertness. Employees should be discouraged from taking any substance known to increase fatigue, including fatigue that sets in after the effects of the drug wear off.

Don-Nan Pump & Supply
General Waste Management

Purpose:

To inform the employer and employees of how all waste is handled and properly disposed of.

Responsibility:

Prior to each shift, wastes, trash, and/or scrap materials will be taken into consideration and a plan will be in place to dispose of this waste. Don-Nan Pump & Supply estimates the waste that will be generated prior to work being performed so that the need for employees, containers and waste removal can be determined. Depending on how busy our employees are and the demand of our products for each day determine how much waste and scrap materials will be generated that day.

Proper handling, organization and storage of each material, chemical, etc… is mandatory and records are kept accordingly. This is done to make sure proper measures are taken and to also minimize potential impact that might be placed on the environment. Waste materials should be properly disposed of as well as properly stored and handled to minimize the potential for a spill or impact to the environment. During outdoor activities, receptacles are placed accordingly and must be covered to prevent dispersion of waste materials as well as to control the potential for run-off.

Employees as well as supervisors must be instructed on the proper disposal method for wastes. Don-Nan Pump & Supply works closely with a hazardous materials disposal company that manages these dangerous materials and records are kept current on this process. Don-Nan Pump & Supply also properly disposes of on-hazardous wastes, trash and scrap materials. Employees are trained to ensure proper disposal, depending on which material they are dealing with.

All trash and scrap materials are separated and, if possible, recycled. Don-Nan Pump & Supply encourages proper segregation of waste materials to ensure all opportunities are taken advantage of to either reuse or recycle.

Don-Nan Pump & Supply
Job Competency

Purpose:

To list all job titles for each employee in the Don-Nan Pump & Supply organization.

Responsibility:

Don-Nan Pump & Supply keeps an up-to-date organizational list of job titles/roles in the company. This list is readily available and easily accessible online. As well as including names and job titles, it also includes direct phone extensions internally in the company and also cell phone numbers for each employee that currently holds the specified job title.

The minimum qualifications are listed for each job title/role such as work experience and the required education level. Work experience can be substituted for education, in some roles.

Background checks are performed on each employee to verify all credentials, experience, driving records and references. Strict procedures are performed to ensure that documentation is acquired from employees as proof that they are qualified to perform their job duties as specified.

All new or transferred employees are provided training specific to their job/role. All employees are trained on the tasks they perform on a regular basis. Employees are also evaluated on their performance.

Before any new employee can perform their job/role independently, a supervisor must approve this. A competent leader such as a supervisor, department head, etc… must verify that an employee is competent to perform their roles and responsibilities before being allowed to work independently.

Don-Nan Pump & Supply
Manual Lifting

Purpose:

To assess the correct procedures to manual lifting and to also address all hazards accompanied with manual lifting.

Responsibility:

Before a manual lift of any kind is performed, a hazard assessment must be completed. The assessment must consider size, bulk, and weight of the object(s). The assessment must also specify if the lift can be performed by two people if mechanical lifting is necessary. The assessment must also specify if a person's vision is obscured while carrying the load as well as if the walking surface and path are clear of all obstructions. If lifting equipment is not possible or impractical, two-person lifts must be used.

Training will be provided for all new and current employees on the importance of proper lifting techniques. Training includes the general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Job specific training will also be given on safe lifting and work practices, hazards and controls.

Musculoskeletal injuries are often a result of improper lifting techniques. Any musculoskeletal injuries caused by improper lifting must be investigated and documented. If the results of the investigation findings prove that find improper lifting techniques, changes must be made immediately and incorporated to prevent future injuries.

If an injury is caused during manual lifting, that injury must be reported and recorded in accordance with OSHA regulations. According to 29 CFR Part 1904 –Recording and Reporting Occupational Injuries and Illnesses; it states in §1904.0 Subpart A – Purpose "The purpose of this rule (Part 1904) is to require employers to record and report work-related fatalities, injuries, and illnesses."

Supervision must periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries. New operations should be evaluated to engineer out hazards before work processes are implemented.

Manual lifting such as dollies, hand trucks, lift-assist devices, jacks, carts, and hoists are provided by Don-Nan Pump & Supply for employees. Other engineering controls such as conveyors, lift tables, and work stations are designed for maximum efficiency and designed ergonomically to benefit the employee.

Don-Nan Pump & Supply provides employees with manual lifting equipment and enforces it to be used by all supervisors.

Don-Nan Pump & Supply
Mobile Equipment

Purpose:

To set forth the rules and guidelines pertaining to operating Don-Nan Pump & Supply mobile equipment.

Responsibility:

Don-Nan Pump & Supply has very strict guidelines where only authorized employees shall be allowed to operate mobile equipment. Authorization to operate mobile equipment will only be issued to Don-Nan Pump & Supply employees that have qualified under appropriate training, proficiency training, and passed their examination.

At the beginning of each shift, the operator shall inspect and check the assigned equipment, reporting immediately to his/her supervisor any malfunction of the clutch or of the braking system, steering, lighting, or control system. Also, the operator will make sure that the equipment has a working signal while it is backing up. If the equipment is not working correctly, lock out/tagout as necessary.

Don-Nan Pump & Supply has its own rule of when it comes to mobile equipment and it is "one butt per seat." This means that unauthorized personnel shall not be permitted to ride on any equipment unless it is designed for an extra passenger with a seat for that passenger and it is equipped to accommodate passengers safely.

Don-Nan Pump & Supply trains its employees to fasten seat belts and adjust them to fit properly, before starting the engine. As a precaution, no operator shall operate mobile equipment without eye protection, if the cab of the mobile equipment is not enclosed.

Under no circumstance is an employee of Don-Nan Pump & Supply allowed to use, or attempt to use any vehicle in any manner or for any purpose other than for which it is designed to be used. Using machinery or equipment for other reasons than its main intention can be dangerous and even fatal.

The operator shall not load the vehicle/equipment beyond its establishment load limit and shall not move a load, which because of the length, width, or height that have not been centered and secured safe transportation.

Don-Nan Pump & Supply requires proper fueling techniques. The operator of a gasoline or diesel vehicle shall shut off the engine before filling the fuel tank and shall ensure that the nozzle of the filing hose makes contact with the filling neck of the tank. No one shall be on the vehicle

during fueling operations except as specifically required by design. There shall be NO SMOKING or open flames in the area while fueling is occurring.

Don-Nan Pump & Supply
Natural Occurring Radioactive Material (NORM)

Purpose:

To identify the person in charge of natural occurring radioactive materials on the premises and the actions taken to dispose of properly.

Responsibility:

The program administrator in charge of natural occurring radioactive materials (NORM) at Don-Nan Pump & Supply is the EHS Director.

Radioactive materials are found almost everywhere. It is found in the air and in soil, and even in radioactive potassium in our own bodies. It is found in public water supplies and foods. The average person in the United States is exposed to about 360 millirems of radiation from natural sources each year. A millirem, or one one-thousandth of a rem, is a measure of radiation exposure. More than 80% of this exposure level comes from background radiation sources. Consumer products contribute 10 millirem/year, while living or working in a brick building can add another 70 millirem/year.

Don-Nan Pump & Supply employees, which work outdoors, are only exposed to two main radionuclides (and in very minute amounts which impose no hazards to our employees). These two radionuclides are Barium Sulfate and Strontium Sulfate. The exposures to these are from the downhole pumps that we receive from our customers that have us repair and maintain their pumps.

NORM may be found at any of our locations (since it is a naturally occurring material in the Earth), which means it can be found anywhere. Don-Nan Pump & Supply tests all of our pumps and tubing for any radioactive materials with a Geiger counter. A Geiger counter is a type of particle detector that measures ionizing radiation. They detect the emission of nuclear radiation: alpha particles, beta particles or gamma rays. A Geiger counter detects radiation by ionization produced in a low-pressure gas in a Geiger-Muller tube. Each particle detected produces a pulse of current, but the Geiger counter cannot distinguish the energy of the source particles. If any of our own supply or a customers' supply is containing any radiation, we consider this to be "hot" and dispose of it properly. Don-Nan Pump & Supply takes pride in how it handles anything relative to the environment.

Don-Nan Pump & Supply provides protection for all employees against any NORM that might be considered to be too high. Some of the tools that are used are very simple. TWA (or time weighted average) is the time that the employee is allowed to be around the exposure. The levels we experience are not relative to this since it is such a small amount. We also consider the PPE our employees use. Safety glasses, goggles, face shields and respirators are required when handling anything that is considered to be "hot." Personal hygiene is also a factor when dealing with NORM. Clean shaven faces are required when wearing respirators.

Don-Nan Pump & Supply
Stop Work Authority

Purpose:

To enforce to ALL employees to do their job safely or not at all. There is always time to do it safe and right.

Responsibility:

Don-Nan Pump & Supply employees receive Stop Work Authority training before their initial assignment. The training is documented with sign-in sheets which include the employees name, date and subject of the material covered in the training.

All Don-Nan Pump & Supply employees are responsible and authorized to stop work when the control of the health, safety and environmental risk is not clearly understood or established. Employees are encouraged to ask questions if there are concerns regarding the risks involved. No work will resume until all questions have been answered and all stop work issues and concerns have been adequately addressed.

Don-Nan Pump & Supply does not use intimidation or retribution if an employee or company does not feel safe performing a certain job or function. Also, they will not be reprimanded for issuing a Stop Work Intervention. We want everyone to feel safe and enjoy their job. Employees are responsible to initiate a Stop Work Intervention when warranted and management is responsible to create a culture where Stop Work Authority is exercised freely without fear of negative consequences.

When an unsafe condition is identified, the Stop Work Intervention will be:

1) Initiated

2) Coordinated through management or the supervisor

3) Initiated in a positive manner

4) Notify all affected personnel and supervision of the stop work issue

5) Correct the issue

6) And resume work when it is safe to do so

If Don-Nan Pump & Supply happens to have a Stop Work Intervention, it shall be documented for lessons learned and corrective measures that are to be put in to place where it is necessary.

Supervision and/or management will review Stop Work reports to measure participation, determine quality of interventions and follow-up, trend common issues, identify opportunities for improvement and facilitate sharing of what was learned through the process.

After the Stop Work Intervention has been initiated and closed, Don-Nan Pump & Supply supervisors will follow-up to make sure the safety concerns have been addressed and concluded to the satisfaction of all involved persons prior to the resumption of work. For the most part, most cases should be adequately resolved in a timely manner at the job site. Occasionally, additional investigation and corrective actions may be required to identify and address root causes.